



LIAQUAT COLLEGE OF
MEDICINE & DENTISTRY
KARACHI



COLLEGE OF MEDICINE

UNDERGRADUATE RESEARCH PROJECT BOOK 2026

SECOND EDITION

Ideas • Inquiry • Impact

*Empowering
Future Healthcare
Leaders Through
Research*



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RESEARCH



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DIFFERENCE



SYNOPSIS

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MESSAGE FROM THE PRINCIPAL COLLEGE OF MEDICINE



It is a privilege to introduce the 2nd Edition of the Undergraduate Research Project Book, which showcases the enthusiasm, scholarly effort, and commitment of our undergraduate medical students. Research is an essential foundation of progress in medicine and healthcare. Providing students with opportunities to participate in research from an early stage helps develop critical thinking, analytical abilities, and a strong appreciation of evidence-based medical practice. The projects presented in this 2nd Edition reflect the students' dedication to learning and their capacity to transform classroom knowledge into meaningful scientific work. I sincerely congratulate all the students for their hard work, perseverance, and intellectual curiosity. I also extend my heartfelt appreciation to the faculty supervisors and coordinators whose mentorship, guidance, and continuous encouragement contributed greatly to the successful completion of these projects.

Together, these contributions strengthen the culture of research, inquiry, and innovation within our institution. I hope this publication motivates future students to explore research, ask important questions, and contribute to the advancement of medical knowledge and the quality of healthcare delivery. I wish all our students continued achievement and excellence in their academic and professional journeys

Prof. Dr. Rashid Naseem Khan

Principal, College of Medicine

Liaquat College of Medicine & Dentistry

HEAD OF DEPARTMENT COMMUNITY MEDICINE



I am pleased to present the Second Edition of Undergraduate Research Book 2026 that contains 29 Research Synopsis, which reflects the dedication, enthusiasm and perseverance of our undergraduate students. As Chairperson of the Undergraduate Research Committee, it has been a privilege to witness their commitment to academic excellence and their sincere efforts to address real-world health challenges.

The projects compiled in this book are the product of critical thinking, evidence-based learning and the application of epidemiological principles and research methodology to relevant community health issues. These research initiatives were undertaken with the objective of fostering a culture of scientific inquiry and building essential research skills among our undergraduate students.

I extend my sincere appreciation to all the supervisors who guided, mentored and supported the students throughout this research process. I also acknowledge the valuable contribution of the Department of Community Medicine, whose continuous support and emphasis on public health research and prevention provided an ideal platform for nurturing these academic endeavors.

I would like to commend the students for their hard work, discipline and intellectual curiosity, which have been instrumental in the successful completion of these projects. I hope this publication will inspire future undergraduate students to actively engage in research and contribute to the advancement of public health and medical science.

Once again, I sincerely hope that this book serves as a meaningful reference and a testament to the power of student-led research in shaping a healthier and more informed society.

Prof. Dr. Kiran Mehtab

HOD Community Medicine and Chairperson Undergraduate Research Committee (COM)

Liaquat College of Medicine & Dentistry



UNDERGRADUATE RESEARCH

PROJECT Fourth YEAR M.B.B.S 2026

(BATCH 18) GROUP A1

Title: Awareness, Attitude and Practices of HPV vaccination among married women of Karachi

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Aamna Alam, Aakash Kabir, Abdul Hannan
Year of study	4 th year MBBS
E-Mail Id	kiranalisyed60@gmail.com
SUPERVISOR	Dr. Kiran Mehtab

Background: Cervical cancer is a leading cause of cancer death among women in Pakistan, driven mainly by persistent infection with high-risk Human Papillomavirus (HPV) types. One of the effective ways to prevent cervical cancer is prophylactic vaccination, but its adaptation in third world countries continues to setback due to the social hurdles and barriers. In urban Pakistan, almost no research data exists on HPV vaccine uptake among married women, despite their significant value in reproductive health intervention policy. By assessing the awareness, attitude and practices concerning HPV vaccination among married women in Karachi, this study intends to provide data that will help provide better public health strategies in future.

Rationale: Cervical cancer is one of a serious public health issue among women, mainly caused by persistent high risk Human Papillomavirus (HPV) infection. A large number of women in Pakistan still feel hesitant or are uninformed about the availability of HPV vaccine. It is very important to assess the knowledge and attitude of these women towards vaccination because they are a major influence of making healthcare decisions for their family. The purpose of this study is to assess the knowledge, attitude and practices of married women in Karachi regarding HPV vaccination. By identifying the knowledge gaps that exist this study can provide findings that can support and strengthen future vaccination outreach programs.



Objective:

1. To measure awareness of HPV vaccination among married women of Karachi
2. To measure attitude and Practices of HPV vaccination among married women of Karachi

Methodology:

- a) **Study Design:** Cross sectional
- b) **Study Setting:** JPMC, DSH, Civil Hospital, Abbasi Shaheed Hospital
- c) **Study Duration:** 8 months (January 2026 to August 2026)
- d) **Study Population:** married women
- e) **Sample size:** 474
- f) **Sampling Technique:** A non-probability convenience sampling technique will be used for data collection.
- g) **Data Collection Procedure:** Data will be conducted by questionnaires in person after taking consent from participants at selected hospitals during the study period.
- h) **Statistical Analyses:** Data was analyzed using SPSS version 28 with 95% confidence interval, the margins were taken 5% and p-value of 0.05 was considered statistically significant.

Gantt's chart:

Task	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



LIAQUAT COLLEGE OF MEDICINE & DENTISTRY



UNDERGRADUATE RESEARCH PROJECT Fourth YEAR M.B.B.S 2026 (BATCH 18)

GROUP A2

Title: Perceptions, Satisfaction Levels, and Impact on Learning, Attention, and Engagement Regarding Didactic (Lecture-Based) Teaching Among Undergraduate Medical Students at LCMD During the Current Academic Term.

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Adina Asif, Ahmed Murtaza Zubair, Ahmed Hassan, Aina Ghouri, Afaq Ahmad
Year of study	4 th year MBBS
E-Mail Id	mahidakh@gmail.com
SUPERVISOR	Prof. Khalid Hussain Mahida

Background: Didactic (lecture-based) teaching remains widely used in medical education. However, concerns exist regarding its effectiveness in maintaining student attention and promoting engagement compared to student-centered approaches.

Rationale: At LCMD, lecture-based teaching is a core component, yet limited local data assesses students' perspectives. Understanding satisfaction and perceived impact can guide teaching strategy improvements.

Objective:

To assess undergraduate medical students' perceptions, determine satisfaction levels, and evaluate the perceived effects of didactic teaching on learning, attention, and engagement.



Methodology:

- Study Design:** Descriptive cross-sectional study.
- Study Setting:** Liaquat College of Medicine & Dentistry (LCMD), Karachi.
- Study Duration:** 4–6 months.
- Study Population:** Undergraduate MBBS students enrolled at LCMD.
- Sample Size:** 250–300 students.
- Sampling Technique:** Non-probability consecutive sampling.
- Data Collection Procedure:** Structured, self-administered questionnaire in English.
- Statistical Analyses:** SPSS v22+, descriptive & inferential statistics.

Gantt's chart:

Task	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



LIAQUAT COLLEGE OF MEDICINE & DENTISTRY



UNDERGRADUATE RESEARCH PROJECT Fourth YEAR M.B.B.S 2026 (BATCH 18)

GROUP A3

Title: Association of Brain Fog with Sleep Quality in Young Adults

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Amna Manahil, Ammara Bhatti, Alishba Tariq, Ammar Waseem, Aliza
Year of study	4 th year MBBS
E-Mail Id	Suwaiba80@gmail.com
SUPERVISOR	Dr. Suwaiba Azim

Background: Brain fog is characterized by impaired concentration, forgetfulness, mental fatigue, and reduced mental clarity. As adequate sleep is essential for cognitive function, the increasing prevalence of poor sleep quality among young adults, particularly medical students, may contribute to these symptoms. Understanding this association may help highlight the cognitive consequences of poor sleep among young adults.

Rationale: Existing studies have linked poor sleep quality with reduced cognitive performance; however, limited local research has explored its association with brain fog among young adults in Pakistan.

Objective:

The aim of this study is to determine the association between brain fog and sleep quality among young adults aged 18–25 years.



Methodology:

a) Study Design: Cross-sectional study.

b) Study Setting: LCMD and the outpatient departments (OPDs) of Dar-ul-Sehat Hospital, Karachi.

c) Study Duration: 02 months from May 2026 to June 2026.

d) Study Population: Medical students and young adults aged 18–25 years.

e) Sample Size: 384 participants.

f) Sampling Technique: Non-probability convenience sampling.

g) Data Collection Procedure: Data will be collected using a structured self-administered questionnaire after obtaining informed consent from participants. The questionnaire will include demographic details, the Pittsburgh Sleep Quality Index (PSQI), and the Brain Fog Scale (BFS).

h) Statistical Analyses: Data will be analyzed using IBM SPSS Statistics Version 26.0. Frequencies and percentages will be calculated for categorical variables, while mean and standard deviation will be calculated for quantitative variables. Chi-square test, Pearson correlation, and independent sample t-test will be used where appropriate. A p-value <0.05 will be considered statistically significant.

Gantt's chart:

Task							
	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



UNDERGRADUATE RESEARCH PROJECT Fourth YEAR M.B.B.S 2026 (BATCH 18)

GROUP B1

Title: Role of Social Support, Religious Coping, and Medication Use in Reducing Examination Stress among Medical and Allied Health Sciences Students of Karachi.

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Humna Iftikhar, Haleema Shafqat, Haniya khan, Hiba Hassaan, Hussnain Raza
Year of study	4 th year MBBS
E-Mail Id	drshahidakashif@gmail.com
SUPERVISOR	Dr Shahida Kashif

Background: Examination stress is highly prevalent among medical students in Karachi and poses a significant risk to their academic performance and mental well-being. Students utilize various approaches to manage this stress, including social support, religious coping, and medication. However, there is limited evidence regarding the specific roles and effectiveness of these strategies among medical students in the local context of Karachi.

Rationale: Examination stress is common among medical and allied health sciences students. They often cope through family and friends, religious practices, or medications and stimulants. However, little is known about the effectiveness of these strategies among students in Karachi. This study aims to examine their association with examination stress and provide evidence to support student well-being and academic success.

Objective:

This study aims to determine the role of social support, religious coping, and medication use in managing examination stress among medical and allied health sciences students in Karachi, Pakistan.



Methodology:

- a) **Study Design:** Cross sectional
- b) **Study Setting:** The study will be conducted at Liaquat College of Medicine and Dentistry (LCMD) and Jinnah Sindh Medical University (JSMU), Karachi, representing both private and government medical institutions.
- c) **Study Duration:** January to June 2026 (6 months).
- d) **Study Population:** Undergraduate students from first to final year medical and allied health sciences programs. Non-medical students and those unwilling to participate will be excluded.
- e) **Sample Size:** A total of 400 undergraduate students will be recruited.
- f) **Sampling Technique:** Convenience sampling will be used to recruit eligible participants from both institutions.
- g) **Data Collection Procedure:** Data will be collected through a structured Google Form using three validated tools: the Perceived Stress Scale-10 (PSS-10), the Multidimensional Scale of Perceived Social Support-12 (MSPSS-12), and the RCOPE Scale. Demographic information and medication/stimulant use will also be recorded. Participants will be approached in person and informed about the study objectives, voluntary participation, and confidentiality before completing the form.
- h) **Statistical Analyses:** Data will be analyzed using SPSS version 27.0 (or current). Descriptive statistics will be calculated for all variables. Associations between demographic variables and coping strategies will be assessed using the Chi-square test, while logistic regression will identify significant predictors of examination stress. A p-value < 0.05 will be considered statistically significant.

Gantt's chart:

Task	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



UNDERGRADUATE RESEARCH

PROJECT Fourth YEAR M.B.B.S 2026

(BATCH 18) GROUP B2

Title: Relationship between physical activity levels and sleep quality in patients with type 2 diabetes Mellitus

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Azeen Qaisar, Azfia Muneer, Bakhtawar Ansari, Bisma Kamran
Year of study	4 th year MBBS
E-Mail Id	Sarahaslam892@gmail.com
SUPERVISOR	Dr. Sarah Aslam

Background: Type 2 diabetes mellitus (T2DM) is a common chronic metabolic disorder characterized by insulin resistance and impaired glucose metabolism. Lifestyle factors, particularly physical activity and sleep quality, play an important role in disease management and prevention of complications. Poor sleep quality is frequently observed among patients with T2DM and is associated with poor glycemic control, increased insulin resistance, and reduced quality of life. Regular physical activity improves insulin sensitivity, reduces psychological stress, and may positively influence sleep quality. However, limited local data exist regarding this relationship among patients with T2DM in Pakistan.

Rationale: Type 2 diabetes mellitus (T2DM) is a major public health concern associated with significant morbidity and reduced quality of life. Poor sleep quality is common among patients with T2DM and is linked to poor glycemic control, increased insulin resistance, and a higher risk of complications. Physical activity has been shown to improve metabolic control and may positively influence sleep quality; however, the relationship between physical activity levels and sleep quality remains inadequately explored in the local population. This study aims to assess this association among patients with T2DM, providing evidence that may help develop lifestyle-based interventions to improve sleep and overall diabetes management.

Objective:

To assess the relationship between physical activity levels and sleep quality in patients with type 2 diabetes mellitus and to evaluate the influence of sociodemographic and clinical factors on sleep quality.



Methodology:

- Study Design:** Cross sectional
- Study Setting:** Dar ul Sehat hospital, Sessi hospital
- Study Duration:** Expected duration will be 06 months from February 2026 to August 2026
- Study Population:** Adult patients diagnosed with type 2 diabetes mellitus
- Sample Size:** 119 participants
- Sampling Technique:** Consecutive sampling of eligible patients presenting to the outpatient department until the required sample size is achieved.
- Data Collection Procedure:** Data will be collected by questionnaires in person after taking consent from participants at selected hospital.
- Statistical Analyses:** Data will be entered and analyzed using Stata. Descriptive statistics will be used to summaries demographic characteristics and study variables. Frequencies and percentages will be calculated for categorical variables, while mean and standard deviation will be calculated for quantitive variables. The Chi-square and independent t-test will assess association. A p-value <0.05 will be considered significant.

Gantt's chart:

Task							
	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



UNDERGRADUATE RESEARCH
PROJECT Fourth YEAR M.B.B.S 2026
(BATCH 18)

GROUP B3

Title: Impact of migraine on academic performance & quality of life in medical students of Karachi

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Erum Nawaz, Farheen Ali Shaikh, Faryal Magsi, Fabeha Asif, Fatima Siddiqui
Year of study	4 th year MBBS
E-Mail Id	abdul.malik@lcmd.edu.pk
SUPERVISOR	Prof. Dr. Abdul Malik

Background: Migraine is a common neurological disorder that can significantly affect academic performance, daily functioning, and quality of life. Medical students are particularly vulnerable due to academic stress, sleep disturbances, and examination-related pressures.

Rationale: Despite the significant burden of migraine worldwide, its prevalence and impact among medical students in our population remain insufficiently characterized. This study will contribute to the existing literature by providing evidence to support targeted interventions for this vulnerable population.

Objective:

This research is to determine the prevalence, impact of migraine on academic performance and quality of life in medical students of Karachi.



Methodology:

- a) **Study Design:** Cross-sectional
- b) **Study Setting:** Medical Colleges of Karachi
- c) **Study Duration:** 07 months from February 2026 to August 2026
- d) **Study Population:** Medical students of Karachi
- e) **Sample Size:** 423
- f) **Sampling Technique:** Convenient Sampling
- g) **Data Collection Procedure:** Structured Questionnaire
- h) **Statistical Analysis:** Data will be entered and analyzed using Stata. Descriptive statistics will be used to summarize demographic characteristics and study variables. Frequencies and percentages will be calculated for categorical variables, while mean and standard deviation will be calculated for quantitative variables. The Chi-square and independent t-test will assess association. A p-value <0.05 will be considered significant

Gantt's chart:

Task							
	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



UNDERGRADUATE RESEARCH
PROJECT Fourth YEAR M.B.B.S 2026
(BATCH 18)

GROUP C1

Title: Knowledge, Attitude and Practices Regarding Iron Deficiency Anemia Among Breastfeeding Mothers and Its Impact on Their Offspring in Karachi

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Areej Ahmed, Areesha Amir, Arwa Mujeeb, Areej Pervez Bhutto, Arisha Imtiaz
Year of study	4 th year MBBS
E-Mail Id	
SUPERVISOR	Dr. Aaila Haider

Background: Iron deficiency anemia (IDA) is the most common nutritional disorder worldwide and disproportionately affects breastfeeding mothers because of the increased physiological demands of lactation. Poor maternal iron status can reduce a mother's energy, immunity and caregiving capacity, and has been linked to adverse infant health outcomes including impaired growth and neurodevelopment.

Rationale: Although anemia among pregnant women in Pakistan has been studied, evidence on the knowledge, attitudes and practices (KAP) of breastfeeding mothers regarding iron deficiency anemia, and how these relate to infant health, remains limited, particularly in urban settings such as Karachi.

Objective:

To determine the knowledge, attitudes and practices regarding iron deficiency anemia among breastfeeding mothers in Karachi and to assess the potential impact of maternal knowledge and practices on the health of their offspring.



Methodology:

a) Study Design: Cross-sectional descriptive study

b) Study Setting: Darul Sehat Hospital, Civil Hospital Karachi, and Jinnah Postgraduate Medical Centre

c) Study Duration: Six to eight months (January 2026 – July 2026)

d) Study Population: Breastfeeding mothers of infants aged 0–12 months

e) Sample Size: 500 participants

f) Sampling Technique: Non-probability convenience sampling

g) Data Collection Procedure: Data will be collected using a structured questionnaire (manual and online) after obtaining informed consent from mothers attending maternal and child health clinics

h) Statistical Analyses: Data will be entered and analyzed using IBM SPSS Statistics version 27. Frequencies and percentages will be calculated for categorical variables, and mean and standard deviation for continuous variables. The Chi-square test and independent t-test will assess associations, and logistic regression will identify predictors of good knowledge and practices. A p-value <0.05 will be considered significant

Gantt's chart:

Task	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



LIAQUAT COLLEGE OF MEDICINE & DENTISTRY



UNDERGRADUATE RESEARCH

PROJECT Fourth YEAR M.B.B.S 2026

(BATCH 18)

GROUP C2

Title: Perceptions of Teacher–Student Interactions and Their Association with Academic Motivation and Learning Satisfaction Among Medical Students

SYNOPSIS

RESEARCHER’S INFORMATION

Student Investigators	
Names Of Investigator	Isha Munir, Iraj Hasan, Ismail Jauhar, Isha Sanaullah, Iqra Allauddin
Year of study	4 th year MBBS
E-Mail Id	sundas.dastagir@gmail.com
SUPERVISOR	Dr. Sundus Dastagir

Background: The medical education journey is a demanding process where the Learning Environment plays a key role in student success. Central to this environment is the teacher–student interaction, which serves as the primary conduit for knowledge transfer and clinical development.

Rationale: Supportive communication, approachability, and constructive feedback from teachers strongly influence students’ academic motivation and overall learning satisfaction. Heavy academic workloads and rigid institutional structures often limit these interactions, making it essential to understand student perceptions to design effective institutional teaching practices.

Objective:

To assess the perceptions of teacher–student interactions and their association with academic motivation and learning satisfaction among medical students.



Methodology:

- Study Design:** Cross-Sectional Study.
- Study Setting:** Liaquat College of Medicine and Dentistry, Karachi. Study
- Duration:** 6 months (January 2026 – June 2026).
- Study Population:** Undergraduate medical students (1st–5th year) and faculty members involved in teaching.
- Sample Size:** Approximately 250–300 participants.
- Sampling Technique:** Non-probability convenience sampling.
- Data Collection Procedure:** Data will be collected through an online questionnaire on Google Forms, adapting validated instruments such as the Dundee Ready Education Environment Measure (DREEM), Academic Motivation Scale (AMS), and College Academic Self-Efficacy Scale (CASES).
- Statistical Analyses:** Descriptive and inferential analysis using SPSS version 27, utilizing the Shapiro–Wilk test, Cronbach’s alpha, correlation analysis, independent t-tests/ANOVA, and multiple regression analysis.

Gantt’s chart:

Task	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



UNDERGRADUATE RESEARCH

PROJECT Fourth YEAR M.B.B.S 2026

(BATCH 18) GROUP C3

Title: Determinants of Health-Related Quality of Life in Hypertensive End-Stage Renal Disease Patients

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Khunsha Jawed, Laiba Ayyaz, Laraib, Arsheen Bhatti, Khalid Mehmood
Year of study	4 th year MBBS
E-Mail Id	zaïmanuzhatshaikh@gmail.com
SUPERVISOR	Dr. Zaima

Background: Chronic kidney disease (CKD) is an increasing global public health burden, particularly in low-and middle-income countries. End-stage renal disease (ESRD), the final stage of CKD, requires lifelong hemodialysis for survival. Hypertension is highly prevalent among patients with ESRD and contributes to disease progression, cardiovascular complications, and increased mortality. In addition to physical symptoms such as fatigue and sleep disturbances, patients undergoing hemodialysis experience psychological, social, and financial challenges that substantially impair their health-related quality of life (HRQoL).

Rationale: Although previous studies have demonstrated that hypertension and ESRD negatively affect HRQoL, limited research has evaluated the factors determining HRQoL among hypertensive ESRD patients receiving hemodialysis, particularly in Pakistan. Identifying these determinants is essential for developing targeted interventions to improve patient well-being and optimize comprehensive renal care.

Objective:

To determine the factors associated with health-related quality of life among hypertensive patients with end-stage renal disease undergoing maintenance hemodialysis.



Methodology:

- A. Study Design:** Cross sectional
- B. Study Setting:** Participants will be CKD patients undergoing hemodialysis from the following hospital: 1) Darul Sehat Hospital. 2) Jinnah Postgraduate Medical Centre 3) Kidney Centre 4) SIUT
- C. Study Duration:** Expected duration will be 06 months from February 2026 to August 2026
- D. Study Population:** Patients of chronic kidney disease and ESRD undergoing maintenance hemodialysis who have a history of hypertension
- E. Sample Size:** 380
- F. Sampling Technique:** A non-probability convenience sampling technique will be used for data collection
- G. Data Collection Procedure:** Data will be collected by questionnaires in person after taking consent from participants at selected hospital and institutes during the study period
- H. Statistical Analyses:** Data will be analyzed using SPSS version 26. Categorical variables will be presented as frequency and percentage, while continuous variables will be presented as mean $\pm$ SD. KDQOL-36 domain scores will be calculated according to standard scoring guidelines. Associations between different factors and quality-of-life scores will be assessed using appropriate statistical tests. A p-value <0.05 will be considered statistically significant.

Gantt's chart:

Task	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



UNDERGRADUATE RESEARCH
PROJECT Fourth YEAR M.B.B.S 2026
(BATCH 18) GROUP D1

Title: To determine the frequency of obesity depending on body mass index (BMI) patterns among medical students in Karachi

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Malaika Sami Maheen khan Malaika Sherbaz Manahil Abbasi Malaika Faisal
Year of study	4 th year MBBS
E-Mail Id	dr.yusra82@gmail.com
SUPERVISOR	Dr. Yusra Afzal

Background: Global obesity now affects more than one billion people worldwide. Medical students are particularly vulnerable because of academic stress, sedentary lifestyle, irregular eating habits, poor sleep, and reduced physical activity. Body Mass Index (BMI) is the standard WHO tool used to classify underweight, normal weight, overweight, and obesity

Rationale: Although medical students have adequate health knowledge, obesity remains common due to unhealthy lifestyle practices. Limited local data are available regarding BMI patterns among medical students in Karachi. This study will help identify the frequency of obesity and guide future health promotion strategies.

Objective:

1. To calculate BMI of medical students using height and weight measurements.
2. To categorize students into groups (underweight, normal, overweight, obese).
3. To determine the frequency of each BMI category among medical students.



Methodology:

a) **Study Design:** cross sectional

b) **Study Setting:** Liaquat college of medicine and dentistry

c) **Study Duration:** 07 months from February 2026 to August 2026

d) **Study Population:** MBBS students

e) **Sample Size:** 400 participants

f) **Sampling Technique:** Convenience sampling.

g) **Data Collection Procedure:** Data will be collected using a structured questionnaire and anthropometric measurements after obtaining informed consent from participants.

j) **Statistical Analyses:** Data will be analyzed using SPSS version 27. Continuous variables will be presented as mean $\pm$ standard deviation, while categorical variables will be presented as frequencies and percentages. Associations between BMI categories and selected variables will be analyzed using the Chi-square test, with $p < 0.05$ considered statistically significant.

Gantt's chart:

Task	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



UNDERGRADUATE RESEARCH
PROJECT Fourth YEAR M.B.B.S 2026
(BATCH 18)

GROUP D2

Title: A Cross-Sectional Study to Assess the Association of Hypertension Among Cancer Patients Undergoing Chemotherapy at a Tertiary Care Hospital

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Mishal khalil, Minahil riaz, Muhammad Abdullah, Mirza Mustafa Baig, Muhammad Haris
Year of study	4 th year MBBS
E-Mail Id	usadsun_dr@yahoo.com
SUPERVISOR	DR. Sadia Sundus

Background: Hypertension is the most common cardiovascular comorbidity among patients with cancer and may occur as a pre-existing condition or develop secondary to chemotherapy. Treatment-induced hypertension can increase the risk of cardiovascular complications, interrupt cancer treatment, and adversely affect patient outcomes. Despite increasing evidence worldwide, local data regarding hypertension among cancer patients undergoing chemotherapy remain limited.

Rationale: Early identification and effective management of hypertension are essential to minimize cardiovascular morbidity. This study aims to generate local evidence on the prevalence of hypertension and its associated factors among patients receiving chemotherapy, thereby supporting improved screening and management strategies in oncology practice.

Objective:

To determine the prevalence and association of hypertension among cancer patients undergoing chemotherapy at tertiary care hospitals.



Methodology:

- Study Design:** Cross-sectional observational study.
- Study Setting:** Oncology departments of Jinnah Postgraduate Medical Centre, Civil Hospital Karachi, Dow International Hospital (Ojha Campus), and KIRAN Hospital.
- Study Duration:** Seven months (February 2025 to August 2025)
- Study Population:** Adult cancer patients (≥ 18 years) currently undergoing chemotherapy at the selected tertiary care hospitals.
- Sample Size:** Approximately 180–250 participants.
- Sampling Technique:** Non-probability consecutive sampling.
- Data Collection Procedure:** Eligible participants will be included after obtaining informed consent. Data will be collected using a structured questionnaire, review of medical records, and standardized measurements of blood pressure and anthropometric parameters. Sociodemographic, clinical, and treatment-related information will be recorded.
- Statistical Analyses:** Data will be entered into a structured database and analyzed using descriptive and comparative statistical methods. Continuous variables will be summarized using appropriate measures of central tendency, while categorical variables will be presented as frequencies and percentages. Associations between hypertension and demographic and clinical variables will be evaluated using appropriate statistical tests.

Gantt's chart:

Task	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



LIAQUAT COLLEGE OF MEDICINE & DENTISTRY



UNDERGRADUATE RESEARCH PROJECT Fourth YEAR M.B.B.S 2026 (BATCH 18)

GROUP D3

Title: Frequency of prehypertension and its associated risk factors among undergraduate medical students in private and public sector universities of Karachi, Pakistan”.

SYNOPSIS

RESEARCHER’S INFORMATION

Student Investigators	
Names Of Investigator	Muhammad Mubashir Rehman, Muhammad Romaan Rafay, Muhammad Misfar Naveed, Muhammad Haysum, Prem Kumar
Year of study	4 th year MBBS
E-Mail Id	Anamshaikh67@yahoo.com
SUPERVISOR	Dr Anam Shaikh

Background: Prehypertension is an early stage of elevated blood pressure associated with increased cardiovascular risk. Medical students vulnerable due to stress and un healthy lifestyle habits

Rationale: This study evaluates prehypertension prevalence and associated risk factors among medical students in public versus private universities, aiming to identify context-specific determinants that can guide targeted screening, stress reduction, and lifestyle interventions for this future healthcare workforce.

Objective:

1. To determine prehypertension frequency and associated risk factors among undergraduate medical students in public and private Karachi universities
2. To compare these factors across both sectors.



Methodology:

- a) **Study Design:** cross sectional
- b) **Study setting:** the study will be conducted at multiple public and private sector universities of Karachi, including all enrolled undergraduate MBBS students across all years.
- c) **Study duration:** the study will be conducted over 6 months (February 2026 – August 2026)
- d) **Study Population:** In this multicenter study, the total sample will be distributed proportionally among the selected public and private sector medical universities in Karachi based on their student population.
- e) **Sample Size:** 355 participants.
- f) **Sampling technique:** Stratified random sampling will be used to select participants from the official student lists of selected public and private sector medical universities in Karachi.
- g) **Data collection procedure:** Data will be collected through a structured questionnaire using Google Forms. The informed consent form is included at the beginning of the form, and participants will provide consent before completing the questionnaire. The questionnaire link will be shared with participants through online platforms, allowing them to respond at their convenience.
- h) **Statistical Analysis:** Data will be entered and analyzed using SPSS Version 25 (or equivalent)

Gantt's chart:

Task							
	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



UNDERGRADUATE RESEARCH
PROJECT Fourth YEAR M.B.B.S 2026
(BATCH 18) GROUP E1

Title: Prevalence of Sunscreen Usage Among Medical Students

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Muhammad Yasir Muhammad Yousuf Shahid Muhammad Zia ullah Khan Muskan Latif Nayab Iftikhar
Year of study	4th year MBBS
E-Mail Id	sabafaisal2k16@gmail.com
SUPERVISOR	Dr. Saba Arif

Background: Ultraviolet radiation is an important environmental risk factor for several skin disorders such as photo aging and skin cancer. Sunscreen offers an effective prevention against exposure to harmful ultraviolet radiation. Medical students are supposed to be sufficiently knowledgeable about sun protection practices

Rationale: While medical students may be aware of the importance of sun protection, they may not adequately use sunscreen. There is scarcity of local data regarding the pattern of sunscreen usage among medical students in Pakistan. The aim of this study was to assess the use and knowledge of sunscreen among medical students.

Objective:

1. To determine the prevalence of sunscreen usage among medical students
2. To identify factors associated with sunscreen usage among medical students



Methodology:

- a. **Study Design:** Cross sectional study
- b. **Study Setting:** Participants will be medical (MBBS) students from Liaquat College of Medicine and Dentistry
- c. **Study Duration:** Expected duration will be seven months, from February 2026 to August 2026.
- d. **Study Population:** MBBS students of Liaquat college of medicine and dentistry
- e. **Sample Size:** The sample size was calculated using OpenEpi software, prevalence of 49%, a population size of 700, a 95% confidence level, and a 5% margin of error. The final sample size was 250.
- f. **Sampling Technique:** A Non-probability convenience sampling technique will be used for data collection. Participants who meet the inclusion criteria and are easily accessible during the study period will be recruited for the study.
- g. **Data Collection Procedure:** Data will be collected from MBBS students using a self-administered questionnaire.
- h. **Statistical Analyses:** Data will be analyzed using SPSS software and statistics including frequencies, percentages, mean and standard deviation will be calculated where required. The Chi-square test will be used to analyze the relation between variables. A p-value of less than 0.05 will be considered statistically significant.

Gantt's chart:

Task	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



UNDERGRADUATE RESEARCH

PROJECT Fourth YEAR M.B.B.S 2026

(BATCH 18) GROUP E2

Title: Assessment of Quality of Sleep in Patients Undergoing Maintenance Hemodialysis Using the Pittsburgh Sleep Quality Index (PSQI)

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Qaima Ali, Qurat Ul Ain, Rabia Akram, Rida Rasheed
Year of study	4 th year MBBS
E-Mail Id	saminasohaib12@gmail.com
SUPERVISOR	Dr. Samina Shamim

Background: Sleep disturbance is common among patients with chronic kidney disease (CKD) undergoing dialysis, driven by uremia, metabolic imbalance, restless leg syndrome, pruritus, anxiety, and depression. A large proportion of dialysis patients experience insomnia, fragmented sleep, and excessive daytime sleepiness, which negatively affects quality of life, treatment compliance, and psychological well-being.

Rationale: Sleep disorders in dialysis patients are often under-recognized in clinical practice, especially in developing countries, and limited local data exists on sleep quality among patients undergoing maintenance hemodialysis. This study was designed to evaluate sleep quality using a validated sleep questionnaire to help improve patient care and quality of life.

Objective:

To assess the quality of sleep in patients undergoing maintenance hemodialysis using the Pittsburgh Sleep Quality Index (PSQI).



Methodology:

- Study Design:** Cross-sectional descriptive study.
- Study Setting:** Dialysis unit of Darul Sehat Hospital Karachi, and dialysis-dependent patients visiting the Nephrology OPD.
- Study Duration:** 6 months 2026.
- Study Population:** Patients with chronic kidney disease receiving maintenance hemodialysis.
- Sample Size:** Approximately 300 patients, calculated using the WHO sample size calculator.
- Sampling Technique:** Non-probability consecutive sampling.
- Data Collection Procedure:** Data will be gathered using the Pittsburgh Sleep Quality Index (PSQI) administered to eligible consenting patients.
- Statistical Analyses:** Data will be examined using SPSS. Descriptive statistics (mean, standard deviation, frequencies, percentages) will be computed; association between variables will be assessed using the Chi-square test or t-test, with p-value <0.05 considered statistically significant.

Gantt's chart:

Task	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



UNDERGRADUATE RESEARCH
PROJECT Fourth YEAR M.B.B.S 2026
(BATCH 18)

GROUP E3

Title: The frequency of awareness about tuberculosis among the people of Karachi.

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Saleha Waheed, Sameera khan, Sandhia Rani, Sanjana Suneel, Sannar Qamar
Year of study	4 th year MBBS
E-Mail Id	Dr.javeriyali@gmail.com
SUPERVISOR	Dr. Javeria Ali

Background: Tuberculosis (TB) remains one of the leading infectious diseases worldwide and continues to be a major public health problem in Pakistan. Despite the availability of effective diagnostic and treatment strategies, limited public awareness regarding TB symptoms, transmission, prevention, and treatment contributes to delayed diagnosis and continued disease transmission. Assessing public awareness is essential to improve healthcare-seeking behavior and strengthen tuberculosis control efforts.

Rationale: Although Pakistan has a high burden of tuberculosis, limited local data are available regarding the level of awareness among Karachi residents. This study aims to assess knowledge, attitudes, and perceptions regarding tuberculosis among the population of Karachi to guide future public health interventions.

Objective:

To assess the frequency of knowledge, attitudes, and practices regarding tuberculosis among the population of Karachi by evaluating awareness of its symptoms, transmission, prevention, and treatment, and assessing attitudes toward patients with tuberculosis.



Methodology:

- a) **Study Design:** cross sectional
- b) **Study Setting:** Karachi, Pakistan.
- c) **Study Duration:** 7 months 2026
- d) **Study Population:** Residents of Karachi
- e) **Sample Size:** 380 Participants
- f) **Sampling Technique:** Convenient Sampling
- g) **Data Collection Procedure:** Data will be collected through a structured Google Forms questionnaire administered in person by the researchers after obtaining informed consent from the participants.
- h) **Statistical Analyses:** Data will be analyzed using Stata. Frequencies and percentages will be calculated for categorical variables, while mean and standard deviation will be used for quantitative variables. The Chi-square test will be used to assess the association between categorical variables. A p-value < 0.05 will be considered statistically significant.

Gantt's chart:

Task							
	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



UNDERGRADUATE RESEARCH

PROJECT Fourth YEAR M.B.B.S 2026

(BATCH 18) GROUP F1

Title: Frequency of Clinical Iodine Deficiency and its Association with Thyroid Dysfunction among Married Women Aged 18–45 Years Attending SESSI Hospital Karachi

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Shehzadi Malaika Munsif, Sidrah Khan, Sobia Habib Hirani, Syed Haider Raza, Syed Hammad Shah
Year of study	4 th year MBBS
E-Mail Id	Drsamarskilllab@gmail.com
SUPERVISOR	Dr. Samar Kashif

Background: Iodine deficiency is a major public health issue affecting thyroid hormone synthesis and causing multiple endocrine and reproductive complications among women of reproductive age.

Rationale: Limited data exists regarding symptom-based iodine deficiency and its relationship with thyroid dysfunction among women in Karachi. Early identification through clinical screening may support future awareness and prevention strategies.

Objective:

To determine the frequency of iodine deficiency based on clinical signs and symptoms and its association with thyroid dysfunction.



Methodology:

- Study Design:** Descriptive cross-sectional study
- Study Setting:** OPD of SESSI hospital
- Study Duration:** 8-10 months
- Study Population:** Married women aged 18–45 years attending the OPD who meet inclusion criteria
- Sample Size:** 250–300 subjects
- Sampling Technique:** Consecutive (or systemic) sampling of eligible women until the sample size is reached. All the consenting married female patients aged 18-45 will be invited; selection will continue sequentially (e.g. every 2nd eligible patient) to reduce selection bias.
- Data Collection Procedure:** A structured questionnaire will be administered by trained interviewers (doctors) in Urdu or Sindhi. Physical examination of the thyroid gland (inspection and palpation) will be performed by a physician using the WHO goiter classification: Grade 0 (no goiter), Grade 1 (thyroid palpable but not visible), Grade 2 (thyroid visible with neck in normal position).
- Statistical Analyses:** Data will be analyzed using SPSS version 22. Descriptive statistics will be presented as mean $\pm$ SD for continuous variables and frequencies (%) for categorical variables. Associations between clinical iodine deficiency and thyroid dysfunction will be assessed using Chi-square or Fisher's exact tests. Logistic regression analysis will be performed to identify independent predictors of thyroid dysfunction while adjusting for potential confounders. A p-value <0.05 will be considered statistically significant.

Gantt's chart:

Task	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



LIAQUAT COLLEGE OF MEDICINE & DENTISTRY



UNDERGRADUATE RESEARCH

PROJECT Fourth YEAR M.B.B.S 2026

(BATCH 18) GROUP F2

Title: Frequency of Emergency Department Visits among Diabetic Patients with Complications

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Waheen Kumar Jaisinghani Syed Saaib Hussain Syeda Alizay Safdar Kirmani Syeda Shahtaj Sarwar Sultan
Year of study	4 th year MBBS
E-Mail Id	dr.rabab_zehra@yahoo.com
SUPERVISOR	Dr. Rabab Zehra

Background: Diabetes mellitus is a major non-communicable disease worldwide and its prevalence is increasing rapidly, particularly in low- and middle-income countries such as Pakistan. Acute and chronic diabetic complications, including hypoglycemia and diabetic ketoacidosis, frequently require emergency medical care and contribute significantly to hospital admissions and healthcare burden.

Rationale: Diabetic complications are common causes of emergency department visits and may result in severe morbidity if not managed promptly. However, limited local data are available regarding the frequency and pattern of emergency department visits among diabetic patients with complications in tertiary care hospitals in Karachi. This study will help identify common complications leading to emergency visits and may contribute to improved preventive and management strategies.

Objective:

1. To determine the frequency of emergency department visits among diabetic patients with complications presenting to tertiary care hospitals in Karachi.
2. To identify the common diabetic complications leading to emergency department visits.
3. To assess the demographic characteristics of diabetic patients presenting to emergency departments.



Methodology:

- Study Design:** Hospital-based cross-sectional study.
- Study Setting:** Emergency Departments of tertiary care hospitals affiliated with Liaquat College of Medicine and Dentistry, Jinnah Postgraduate Medical Centre (JPMC) and Civil Hospital Karachi.
- Study Duration:** February 2026 to July 2026.
- Study Population:** Patients aged 18 years and above with diagnosed diabetes mellitus presenting to emergency departments with diabetic complications.
- Sample Size:** A total of 120 participants will be included. The sample size was calculated using Open Epi software with a 95% confidence level and 5% margin of error.
- Sampling Technique:** Non-probability convenience sampling technique.
- Data Collection Procedure:** After obtaining ethical approval and informed consent, data will be collected through a structured questionnaire including demographic characteristics, duration of diabetes, treatment modality, type of diabetic complication, and history of emergency department visits.
- Statistical Analyses:** Data will be analyzed using SPSS version 26. Frequencies and percentages will be calculated for categorical variables, while mean and standard deviation will be used for continuous variables. Results will be presented in tables and charts.

Gantt's chart:

Task							
	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



UNDERGRADUATE RESEARCH
PROJECT Fourth YEAR M.B.B.S 2026
(BATCH 18) GROUP F3

Title: Association of mental health status of married female doctors with their family structure.

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Tanzila Saeed Siddiqui, Tasmiya Khurram, Umar Farooq, Umema Nadeem, Ayesha Amir, Urooj Jatoi
Year of study	4 th year MBBS
E-Mail Id	Aqeelazehra15@gmail.com
SUPERVISOR	Dr. Syeda Aqeela Zehra

Background: Mental health problems are increasing among female due to work life imbalance, professional stress and familial restrictions. In Pakistan many doctors are enrolled in medical school but only some of them continue their practice. Family structure however influences important role in their lives by providing social and emotional support. This study suggests that married female doctors are more prone to psychological stress due to dual responsibilities of household and work.

Rationale: Existing literature highlights the influence of family structure on women's mental health in general, but there is a lack of evidence specifically, regarding married female doctors.

Objective:

The aim of this study is to assess frequency of stress, anxiety and depression among married female doctors who either lived in joint or nuclear family and to evaluate their work life balance.



Methodology:

- Study Design:** Cross sectional
- Study Setting:** Dar ul Sehat hospital, Fauji foundation hospital, SESSI hospital, JSMU, JPMC, DIMC
- Study Duration:** 07 months from February 2026 to August 2026
- Study Population:** Working married female doctors
- Sample Size:** 208 participants
- Sampling Technique:** Non-probability Convenience sampling
- Data Collection Procedure:** Data will be collected by questionnaires in person after taking consent from participants at selected hospital and institutes during the study period
- Statistical Analyses:** By using Stata, frequencies and percentages will be calculated for categorical variables, while mean and standard deviation will be calculated for quantitative variables. The Chi-square and independent t-test will assess association. A p-value <0.05 will be considered significant.

Gantt's chart:

Task	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



UNDERGRADUATE RESEARCH

PROJECT Fourth YEAR M.B.B.S 2026

(BATCH 18) GROUP G1

Title: Knowledge and Attitude Regarding Cervical Cancer and Screening among married women

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Vineeta Kumari, Veeneza Nawaz, Zarwa Farooq, Zeeshan Soherwardy, Usman Zulfiqar Ali.
Year of study	4 th year MBBS
E-Mail Id	zshafiq53@gmail.com
SUPERVISOR	Dr. Maliha Shamim

Background: Cervical cancer is one of the leading cancers among women worldwide and in Pakistan.

Persistent infection with high-risk Human papillomavirus infection is the major cause of cervical cancer, which is largely preventable through vaccination and regular screening. The Pap smear is an effective method for early detection and treatment; however, screening uptake in Pakistan remains very low due to lack of awareness, cultural barriers, fear, embarrassment, limited education, and poor access to

healthcare services. Therefore, assessing women's knowledge and attitudes regarding cervical cancer screening is essential to improve prevention, early diagnosis, and treatment outcomes.

Rationale: Cervical cancer remains a major health problem among women in developing countries, early detection with screening tests such as the Pap smear. Inadequate knowledge about cervical cancer, its risk factors, warning signs, and the importance of screening along with fear, embarrassment, and social taboos. Understanding these aspects will help identify existing gaps and support the development of targeted education and awareness programs to improve cervical cancer prevention and screening practices.



Objective:

1. To assess the level of knowledge regarding cervical cancer and its screening among Married women attending the gynecology OPD.
2. To assess the attitude of married women attending the gynecology OPD towards Cervical cancer prevention and screening practices.

Methodology:

- a) Study Design:** A Cross-sectional survey
- b) Study Setting;** The study will be conducted among married women attending gynecology out patient. Department Darul Sehat Hospital and Fauji Foundation Hospital in Karachi
- c) Study Duration;** The expected duration of the study is 6 months, starting from January 2026 to June 2026.
- d) Study Population;** Married women
- e) Sample Size;** 250
- f) Sampling Technique;** Non Probability Purposive Sampling.
- g) Data Collection Procedure;** Questionnaire based after taking informed consent
- h) Statistical Analyses:** The collected data will be entered and analyzed using SPSS software version 29. Descriptive statistics will be applied to summarize the data. Continuous variables, such as age, will be presented as mean $\pm$ standard deviation (SD). Categorical variables, including knowledge about cervical cancer, awareness of screening methods, and attitude toward screening, will be expressed as frequencies and percentages. The Chi-square test will be used to assess the association between knowledge and attitude levels and selected socio-demographic variables such as age group, educational status, parity, and duration of marriage. A p-value < 0.05 will be considered statistically significant.

Gantt's chart:

Task	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



UNDERGRADUATE RESEARCH
PROJECT Fourth YEAR M.B.B.S 2026
(BATCH 18) GROUP G2

Title: Neck pain, its severity and association with quality of life in medical students.

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Sabrina Khalid, Sawera, Rumaisah Sadiq, Shahmeer Ali
Year of study	4 th year MBBS
E-Mail Id	usamah_chundrigar@hotmail.com
SUPERVISOR	Dr. Usamah Bin Waheed

Background: Cervical neck pain is a common musculoskeletal disorder which is very common among young adults especially due to use of electronic devices, bad posture, sedentary life style. It is characterized by neck and shoulder pain and is also associated with back pain. Pain can be aggravated by constant lean forward posture. This pain can interfere with students physical and mental health therefore causing physical and mental stress due to decreased productivity and sleep disturbances.

Rationale: We believe that the frequency of neck pain is increasing exponentially in students, especially since the increase in screen time for educational activities. Not much local studies are done to address this issue effectively.

Objective:

To understand the prevalence and severity of neck pain in medical students and its effect on their quality of life and to identify the contributing factors to neck pain in medical students.



Methodology:

- Study Design:** cross sectional
- Study Setting:** Medical Universities (Multicentric): Liaquat college of medicine and dentistry, Liaquat National Hospital, Jinnah Sindh Medical University, KMDC, PUMHS (peoples university of medical and health sciences), Ziauddin University, UMDC, Sir Syed medical college, JMDC, LUMHS
- Study Duration:** 6 months 2026
- Study Population:** medical students enrolled in MBBS and BDS programmed.
- Sample Size:** Using 95% confidence level and 5% margin of error, our anticipated frequency from a past study was 58.1%. After calculation we got our sample size of 374 using openEpi.
- Sampling Technique:** Convenient
- Data Collection Procedure:** Scales NDI (neck disability index): This questionnaire has been designed to give us information as to how your neck pain has affected your ability to manage in everyday life. RAND 12-Item Health Survey (RAND-12): This questionnaire has been designed to give us information regarding your physical and mental health related to quality of life. Data will be collected via google form questionnaire.
- Statistical Analyses:**
Data will be analyzed using SPSS.
Percentages will be calculated for categorical variables.
Mean and standard deviation will be calculated for quantitative variables. Chi-square test will be used for categorical variables.

Gantt's chart:

Task	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



UNDERGRADUATE RESEARCH

PROJECT Fourth YEAR M.B.B.S 2026

(BATCH 18) GROUP G3

Title: Parental Awareness and Attitudes toward Routine Childhood Vaccines (Excluding Polio) among Children Under-Five: A Cross-Sectional Study.

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Numra Razzaque, Payal Kumari, Saif ul Islam.
Year of study	4 th year MBBS
E-Mail Id	zshafiq53@gmail.com
SUPERVISOR	Dr Zareen Naz

Background: Immunization is one of the most effective public health interventions. Despite the Expanded Programme on Immunizations (EPI) in Pakistan many children remain under-immunized or unvaccinated due to low parental awareness, limited maternal education, socioeconomic barriers, misconceptions, vaccine hesitancy, and disruptions during the COVID-19 pandemic.

Rationale: Routine immunization in Pakistan has been disrupted by factors including the COVID-19 pandemic, low parental awareness, and misconceptions, increasing hesitancy toward vaccines other than polio. This study aims to assess parental awareness and attitudes toward childhood vaccination to identify barriers and improve coverage.

Objective:

1. To assess parents' awareness and attitudes regarding childhood vaccinations under the Expanded Programme on Immunization (excluding polio).
2. To explore the factors that influence parents' decisions to accept, delay, or refuse childhood vaccinations.



Methodology:

- Study Design:** Cross-Sectional Study
- Study Setting:** The study will be conducted in Karachi using both online and in-person data collection from OPDs and vaccination centers.
- Study Duration:** February 2026 to August 2026.
- Study Population:** Parents or caregivers of children under five years of age residing in Karachi.
- Sample Size:** A total of 232 participants will be included, calculated using OpenEpi at 95% confidence, 5% margin of error, and 83.6% prevalence.
- Sampling Technique:** Non-probability convenience sampling technique
- Data Collection Procedure:** Online surveys and in-person interviews after obtaining informed consent from participants.
- Statistical Analyses:** Data will be analyzed using SPSS v26 using descriptive statistics, Chi-square test, and binary logistic regression ($p < 0.05$).

Gantt's chart:

Task							
	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
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LIAQUAT COLLEGE OF MEDICINE & DENTISTRY



UNDERGRADUATE RESEARCH PROJECT Fourth YEAR M.B.B.S 2026 (BATCH 18)

GROUP H1

Title: The Knowledge-Plate Paradox: A Comparative KAP Study on Dietary Fiber Consumption among Medical and Non-Medical Students in Karachi.

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Muhammad Anis Khan, Muhammad Awais Qureshi, Uzair Rafiq, Jahanzaib, Umar khan
Year of study	4 th year MBBS
E-Mail Id	zubiaaziz3@gmail.com babarzubia@gmail.com
SUPERVISOR	Dr. Zubia Babar

Background: Dietary fiber plays an important role in preventing non-communicable diseases and maintaining digestive and metabolic health. However, rapid nutritional transition in urban areas such as Karachi has increased the consumption of processed and low-fiber foods.

Although medical students study nutrition and disease prevention, it is unclear whether this knowledge leads to better dietary habits compared with non-medical students.

Rationale: University students often face academic stress, limited time, changing lifestyles, and easy access to convenience foods, which may reduce healthy dietary practices. Medical students may have better theoretical knowledge, but this does not always translate into adequate fiber intake. Comparing medical and non-medical students can help identify whether nutritional knowledge improves dietary behavior or whether environmental and lifestyle barriers are stronger influences.



LIAQUAT COLLEGE OF MEDICINE & DENTISTRY



Objective:

1. To analyze students' perceptions toward high-fiber diets and document their actual consumption frequency of whole grains, fruits, and vegetables.
2. To identify statistically significant differences in KAP scores between medical and non-medical students
3. To measure student awareness of dietary fiber sources, and its role in disease prevention

Methodology:

- a) **Study Design:** Cross-sectional study.
- b) **Study Setting:** The study will be conducted at Liaquat College of Medicine and Dentistry, Jinnah Sindh Medical University, Karachi University, and Bahria University in Karachi, Pakistan.
- c) **Study Duration:** Six months, from May 2026 to November 2026.
- d) **Study Population:** Medical and non-medical undergraduate and postgraduate students enrolled in selected universities of Karachi.
- e) **Sample Size** The sample size was calculated using the Open Epi sample size calculator, taking a hypothesized frequency of 92% from a previous KAP study on dietary fiber, a 95% confidence interval, and a 5% margin of error. The minimum required sample size was determined to be 400 participants
- f) **Sampling Technique:** Non-probability random sampling will be used to recruit participants.
- g) **Data Collection Procedure:** Data will be collected through a structured questionnaire using Google Forms and physical forms after obtaining informed consent.
- h) **Statistical Analyses:** Data will be analyzed using SPSS version 22. Descriptive and inferential statistics will be applied, and $p \leq 0.05$ will be considered statistically significant.

Gantt's chart:

Task	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
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Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



UNDERGRADUATE RESEARCH

PROJECT Fourth YEAR M.B.B.S 2026

(BATCH 18) GROUP H2

Title: Frequency of Renal Monitoring and Assessment of Progressive Renal Function Decline in Hypertensive and Diabetic Patients: A Tertiary Care Hospital Experience in Pakistan

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Maria Amir Ali, Maria Ejaz, Mariam Furrokh Tanoli, Muhammad Abdul Rehman Khan Khosa, Muhammad Talha Ali
Year of study	4 th year MBBS
E-Mail Id	anissoomro@gmail.com
SUPERVISOR	Dr. Anees-ur -Rehman Soomro

Background: Chronic Kidney Disease occurs as a result of renal decline due to Type 2 Diabetes Mellitus and Hypertension. These comorbidities cause microvascular injuries that lead to kidney damage. As a result, screening of renal function must be done in this population. Screening is done using tests such as Serum Creatinine to calculate the eGFR, and even Urine DR to detect albuminuria. These markers tell us about renal status and help detect any deviation from healthy kidney function. Adherence to KDIGO and ADA guidelines which recommend annual screening can detect renal decline for timely intervention.

Rationale: This study fulfills the lack of combined diabetic-hypertensive CKD screening studies on undetected and undiagnosed CKD in Pakistan. Many studies highlight the need for screening, but few studies have evaluated undiagnosed CKD among diabetic and hypertensive populations in South Asia. It is important for the medical community to know just how often high-risk patients in the general population of Pakistan are undergoing renal screening in routine clinical practice for future awareness campaigns and health resource allotment.

Objective:

The objective of this study is to determine whether there is a correlation between screening frequency and degree of renal decline.



Methodology:

- a) **Study Design:** Cross-sectional
- b) **Study Setting:** Darul Sehat Hospital, Jinnah Postgraduate Medical Center (JPMC), Sindh
Institute of Urology and Transplantation (SIUT), The Kidney Center
- c) **Study Duration:** January 2026 to June 2026
- d) **Study Population:** Diabetic and/ or Hypertensive patients presenting with renal decline
- e) **Sample Size:** 289
- f) **Sampling Technique:** Non-probability consecutive sampling
- g) **Data Collection Procedure:** Administration of self-structured questionnaire
- h) **Statistical Analyses:** Shapiro-Wilk Test, Levene's Test, One-Way ANOVA, Pearson Chi-Square Test via IBM SPSS Statistics (Statistical Package for the Social Sciences) version 26.0

Gantt's chart:

Task							
	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



UNDERGRADUATE RESEARCH PROJECT Fourth YEAR M.B.B.S 2026 (BATCH 18)

GROUP H3

Title: Knowledge, Attitude & Practice of Nursing Staff regarding Infection Control, including Hand Hygiene

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Jaweria Akhtar, Kashaf Kamran, Kanwal, Ibad Waseem, Wasiq Subhani
Year of study	4 th year MBBS
E-Mail Id	docmaryam16@gmail.com
SUPERVISOR	Dr Maryam Jamil

Background: Healthcare-associated infections (HAIs) are a major challenge in healthcare because they increase illness, deaths, and treatment costs. Hand hygiene is one of the easiest and most effective ways to prevent the spread of infections. Since nurses spend the most time with patients, they play a vital role in infection prevention. Following proper handwashing, using protective equipment, and practicing aseptic techniques are essential to ensure patient safety.

Rationale: Despite WHO guidelines, hand hygiene compliance in Pakistan remains low. Healthcare workers often know infection control but don't consistently follow it. Training gaps are a key issue. Evaluating nurses' practices can help improve infection prevention.

Objective:

The aim of this study is to assess the knowledge, attitudes, and compliance of nursing staff regarding infection control practices, particularly hand hygiene guidelines. Additionally, to identify factors affecting adherence to hand hygiene practices and recommend strategies for improving infection prevention and control in healthcare settings.



Methodology:

- Study Design:** Descriptive Cross Sectional Study
- Study Setting:** The study will be conducted in selected public (JPMC, Civil) Hospitals and private hospitals (DSH, AKU,) in Karachi, Pakistan.
- Study Duration:** Expected duration will be 06 months from February 2026 to August 2026
- Study Population:** Registered nurses working in different departments such as medical wards, surgical wards, intensive care units, and emergency departments.
- Sample Size:** The sample size calculated using standard statistical formulas depending on an expected prevalence of 73.1%, a 95% confidence level, and a 5% margin of error. The minimum required sample size was determined to be 303 nursing staff participants.
- Sampling Technique:** Convenience or random sampling method will be used to select participants.
- Data Collection Procedure:** After obtaining ethical approval and informed consent, participants will complete the questionnaire. Data will be collected anonymously to ensure confidentiality.
- Statistical Analyses:** Data will be analyzed using SPSS using Chi-Square tests to check for links between nursing demographics and hand hygiene, t-tests and ANOVA, to compare average KAP scores across different departments.

Gantt's chart:

Task	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



LIAQUAT COLLEGE OF MEDICINE & DENTISTRY



UNDERGRADUATE RESEARCH

PROJECT Fourth YEAR M.B.B.S 2026

(BATCH 18) GROUP I1

Title: Association Between HbA1c Levels and Diabetic Retinopathy in Patients with Type 2 Diabetes Mellitus of ≤ 10 to 15 Years Duration.

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Ghalia Murtaza, Ghayan Noor, Habiba Ijaz Alam, Iman Khan, Yasir Nadeem
Year of study	4 th year MBBS
E-Mail Id	farhatfatima1984@gmail.com
SUPERVISOR	Dr. Farhat Fatima

Background: Diabetes mellitus is a major public health challenge worldwide affecting working age middle age population. Diabetic retinopathy (DR) is a serious microvascular complication though preventable yet foremost cause of blindness in adults. Chronic hyperglycemia damages the retinal microvasculature, resulting in both structural and functional damage which can be prevented with earlier detection at non-proliferative stage with earlier life style and dietary modification at earlier diagnostic age of Diabetes. Awareness about strict control of Glycated hemoglobin (HbA1c), indirectly delaying and safeguarding proliferative changes and macular edema in diabetics. Life style modification should be adopted too good and too soon rather lately arthropathies and restricted mobility hinder the affectivity.

Rationale: HbA1c testing is a standard, widely available, and economical aspect of diabetes management. Establishing a robust, independent link between HbA1c levels and diabetic retinopathy within the local Pakistani community would allow healthcare providers to utilize HbA1c as a crucial marker for identifying individuals at high risk, facilitating earlier and more focused retinal screenings. The objective of this study is to produce local evidence that will guide screening protocols and improve patient education about the significance of maintaining glycemic control to protect vision.



Objective:

1. **Primary:** To determine the association between HbA1c levels and the presence and severity of diabetic retinopathy.
2. **Secondary:** To determine the prevalence of diabetic retinopathy in patients with T2DM for ≤ 15 years.

Methodology:

- a) **Study Design:** Cross sectional analytical study.
- b) **Study Setting:** Ophthalmology and Diabetology outpatient departments of two tertiary care hospitals, one urban (DSH) and one suburban (Sessi), in Karachi.
- c) **Study Duration:** 6 months after Institutional Review Board (IRB) approval.
- d) **Study Population:** Patients aged 30–70 years diagnosed with T2DM for ≤ 10 years with a documented HbA1c measurement within the last 6 months.
- e) **Sample Size:** 200 patients, calculated using OpenEpi software (95% confidence level, 5% margin of error).
- f) **Sampling Technique:** Non-probability consecutive sampling.
- g) **Data Collection Procedure:** HbA1c values from existing laboratory reports; dilated fundus examination by an ophthalmologist; DR classified per the International Clinical Diabetic Retinopathy Disease Severity Scale.
- h) **Statistical Analyses:** SPSS version 26; chi-square test, logistic regression; p-value < 0.05 considered significant.

Gantt's chart:

Task							
	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



UNDERGRADUATE RESEARCH
PROJECT Fourth YEAR M.B.B.S 2026
(BATCH 18) GROUP I2

Title: Knowledge, Attitude and Practices (KAP) Regarding Post Exposure Chemoprophylaxis of tetanus Among the General Population of Karachi

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Aleena Abid, Abiha Amin, Abeerah Javed, Abdullah Abid, Yousaf Israr
Year of study	4 th year MBBS
E-Mail Id	aishakhalid1991@gmail.com
SUPERVISOR	Dr. Aisha Taimoor

Background: Tetanus is an acute, life-threatening neurological condition caused by the neurotoxin of *Clostridium tetani*, an anaerobic spore-forming bacterium commonly found in soil and contaminated wounds. Despite its preventability through Immunization, and post-exposure prophylaxis (PEP), it continues to pose significant public health concerns in developing countries due to gaps in awareness, deferred wound management, and incomplete vaccination coverage. Most research in this area has focused on healthcare workers or specific groups, like women of childbearing age.

Rationale:

This study wants to change that by looking at the bigger picture. It aims to gather information on what people in Karachi know, think, and do about tetanus, so that public health efforts can be based on facts and actually make a difference.

Objective:

To analyze the knowledge, attitude, and practices regarding tetanus immunization and post-exposure prophylaxis (PEP) among the general population of Karachi.



Methodology:

- Study Design:** Cross-sectional study.
- Study Setting:** Community-based multicentral settings across Karachi including Civil Hospital, Jinnah Hospital, and Darul Sehat Hospital.
- Study Duration:** The study will run from February 2025 to August 2025 which is about 7 months.
- Study Population:** General Community.
- Sample Size:** 385 participants calculated via Open Epi version 3 at 95% confidence level, 5% margin of error.
- Sampling Technique:** probability convenience sampling.
- Data Collection Procedure:** administered structured questionnaire comprising four sections: demographics, knowledge, attitudes (Likert scale), and practices.
- Statistical Analysis:** data entered and analyzed using SPSS version 27. Chi-square test for associations; p-value <0.05 considered significant.

Gantt's chart:

Task	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



UNDERGRADUATE RESEARCH

PROJECT Fourth YEAR M.B.B.S 2026

(BATCH 18) GROUP I3

Title: The Role of Nutrition Labelling Use in Dietary Choices for The Management of Diabetes Mellitus

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Aqsa Gul, Anousha Ramzan, Anosha Sheikh, Zahid Khan
Year of study	4 th year MBBS
E-Mail Id	mahanisar29.mn@gmail.com
SUPERVISOR	Dr Maha Nisar

Background: Diabetes mellitus is a growing public health concern worldwide and requires effective dietary management to achieve optimal glycemic control and prevent complications. Nutrition labels provide important information regarding the nutritional content of foods, including sugar, carbohydrates, fats, and calories, which can assist individuals with diabetes in making healthier dietary choices. However, awareness, understanding, and utilization of nutrition labels remain limited among many diabetic patients, reducing their potential benefits in diabetes self-management.

Rationale: Although nutrition labeling has been recognized as a useful tool for promoting healthier food choices and improving diabetes outcomes, studies have reported low levels of awareness and utilization among patients with diabetes. Limited local evidence exists regarding the use of nutrition labels and their relationship with diabetes management among diabetic patients in Pakistan. Therefore, this study aims to assess nutrition label awareness and usage and evaluate its role in supporting effective dietary decision-making and diabetes management.

Objective:

To identify the relationship between nutrition labeling use in dietary choices and the management of diabetes mellitus among diabetic patients in Karachi, Pakistan.



Methodology:

- Study Design:** Analytical cross-sectional study.
- Study Setting:** Civil Hospital Karachi, Jinnah Postgraduate Medical Centre (JPMC), Darul Sehat Hospital, and Shoukat Omar Memorial Hospital (Fauji Foundation).
- Study Duration:** Twelve months (June 2025 to June 2026).
- Study Population:** Adult diabetic patients (>18 years) diagnosed with diabetes mellitus and attending the selected hospitals during the study period.
- Sample Size:** A total sample size of 244 participants was calculated using a prevalence estimate of 46%, a 94% confidence interval, and a margin of error of 6%.
- Sampling Technique:** Purposive sampling technique.
- Data Collection Procedure:** Data will be collected through a structured questionnaire administered by the researchers. The questionnaire will be developed in English, translated into Urdu, and back-translated into English to ensure accuracy. Interviews will be conducted in Urdu after obtaining informed consent from participants.
- Statistical Analyses:** Data will be analyzed using standardized criteria aligned with the study objectives. Nutrition labeling use will be categorized as “Yes” or “No” based on self-reported use. Descriptive statistics will summarize participant characteristics. Associations between nutrition labeling use and diabetes management variables will be assessed using cross-tabulations and odds ratios. Statistical analyses will be applied consistently across study settings to facilitate valid comparisons.

Gantt's chart:

Task	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



UNDERGRADUATE RESEARCH
PROJECT Fourth YEAR M.B.B.S 2026
(BATCH 18) GROUP J1

**Title: Antimicrobial Resistance Awareness and Knowledge
Among Young Adults.**

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Ali Amaan, Dua Mehmood, Insha Gul, Laraib Hassan, Zain Ul Abdin.
Year of study	4 th year MBBS
E-Mail Id	drquratulainkhan2024@gmail.com
SUPERVISOR	Dr. Qurat ul Ain

Background: Anti-microbial resistance is a major global public health threat caused by inappropriate and irrational use of antibiotics. Increasing resistance among microorganisms has resulted in prolonged illnesses, increased healthcare cost, and higher mortality rates. Medical students, as future healthcare professionals, play an important role in promoting rational antibiotic use and preventing antimicrobial resistance.

Rationale: Given the rising threat of antimicrobial resistance in Pakistan and the crucial role of future physicians in antibiotic prescribing, it is important to evaluate the level of awareness of AMR among young adults. This cross-sectional study aims to assess awareness regarding antimicrobial resistance among undergraduate medical students, thereby providing evidence that may support targeted educational interventions and improvements in the medical curriculum.

Objective:

1. To assess the level of awareness regarding antimicrobial resistance among young adults in Karachi.
2. To assess the knowledge regarding appropriate antibiotic use and antimicrobial resistance among young adults.



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Methodology:

- Study Design:** cross-sectional analytical study
- Study Setting:** Urban setting of Karachi.
- Study Duration:** 1st January 2026 to 15th August 2026.
- Study Population:** 18-50 years old young adults
- Sample Size:** Sample size of 400 participants was calculated using OpenEpi software at 95% confidence interval and 5% margin of error based on prevalence from previous studies.
- Sampling Technique:** two-stage cluster random sampling tool with WHO-validated multi count questionnaire.
- Data Collection Procedure:** data will be collected using WHO-validated structured questionnaire through in-person surveys after obtaining informed consent.
- Statistical Analyses:** Analysis using SPSS version 26.

Gantt's chart:

Task	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



UNDERGRADUATE RESEARCH PROJECT Fourth YEAR M.B.B.S 2026 (BATCH 18)

GROUP J2

Title: Assessment of practices regarding prevention of nosocomial infections in neonates among nurses at tertiary care hospitals in Karachi.

SYNOPSIS

RESEARCHER'S INFORMATION

Student Investigators	
Names Of Investigator	Zohra Rukhsar, Bushra Nazish, Zeeshan Ali, Aveet kumar, Avinash.
Year of study	4 th year MBBS
E-Mail Id	mujeali12@gmail.com
SUPERVISOR	Dr. Ayesha Khatoon

Background: Hospital-acquired (nosocomial) infections are infections that develop 48 hours or more after a patient is admitted to the hospital. Newborn babies admitted to Neonatal Intensive Care Units (NICUs) are more likely to get these infections because their immune system is not fully developed. Prematurity, low birth weight, long hospital stays, and the use of procedures such as IV lines and catheters further increase this risk. Nurses play an important role in preventing these infections by following proper hand hygiene, using personal protective equipment (PPE), sterilizing equipment, and following standard infection control guidelines.

Rationale: Hospital-acquired infections are an important cause of illness and death among newborns in Pakistan. Since nurses provide most of the direct care in NICUs, their infection prevention practices have a major impact on patient safety. This study aims to assess these practices, identify areas that need improvement, and provide evidence to support better training and stronger infection control measures in tertiary care hospitals in Karachi.



Objective:

To assess the practices regarding prevention of nosocomial infections in neonates among nurses working in tertiary care hospitals in Karachi.

Methodology:

- Study Design:** Descriptive cross-sectional study.
- Study Setting:** Darul Sehat hospital, JPMC, CIVIL hospital.
- Study Duration:** 6 months (Jan 2026- July 2026).
- Study Population:** Registered nurses working in NICUs of tertiary care hospitals
- Sample Size:** 384
- Sampling Technique:** Non-probability convenience sampling
- Data Collection Procedure:** After ethical approval from hospital, data will be collected by questionnaire in person after taking consent from participants in selected hospitals during this research time period.
- Statistical Analyses:** Data will be entered and analyses using Stata. Descriptive statistics will be used to summarize demographic characteristics and study variables. Frequencies and percentages will be calculated for categorical variables, while mean and standard deviation will be calculated for quantitative variables. The Chi-square test and independent t-test will be applied. A p-value of less than 0.05 will be considered statistically significant.

Gantt's chart:

Task	February	March	April	May	June	July	August
Research Question finalized							
Literature Review							
Rationale / Introduction writing							
Questionnaire Construction							
Referencing writing							
Consent form construction							
Synopsis Submission for IRB approval to HOD Community Medicine							



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UNDERGRADUATE RESEARCH PROJECT 2026

4TH YEAR MBBS (BATCH 18) RESEARCH SUPERVISORS LIST WITH TOPICS

S.NO	SUPERVISOR	DEPARTMENT	RESEARCH TITLE
1.	Dr. Kiran Mehtab	Community Medicine	Title: Awareness, Attitude and Practices of HPV vaccination among married women of Karachi
2.	Dr. Khalid Maidha	ENT	Title: Perceptions, Satisfaction Levels, and Impact on Learning, Attention, and Engagement Regarding Didactic (Lecture-Based) Teaching Among Undergraduate Medical Students at LCMD During the Current Academic Term.
3.	Dr. Suwaiba Azeem	Neurology	Title: Association of Brain Fog with Sleep Quality in Young Adults
4.	Dr. Shahida Kashif	Pathology	Title: Role of Social Support, Religious Coping, and Medication Use in Reducing Examination Stress among Medical and Allied Health Sciences Students of Karachi.
5.	Dr. Sara Aslam	Pediatrics	Title: Relationship between physical activity levels and sleep quality in patients with type 2 diabetes Mellitus
6.	Dr. Abdul Malik	Medicine	Title: Impact of migraine on academic performance & quality of life in medical students of Karachi
7.	Dr. Aila Haider	Pharmacology	Title: Knowledge, Attitude and Practices Regarding Iron Deficiency Anemia Among Breastfeeding Mothers and Its Impact on Their Offspring in Karachi
8.	Dr. Sundus Dastagir	Surgery	Title: Perceptions of Teacher–Student Interactions and Their Association with Academic Motivation and Learning Satisfaction Among Medical Students
9.	Dr. Zaeima	Pharmacology	Title: Determinants of Health-Related Quality of Life in Hypertensive End-Stage Renal Disease Patients
10.	Dr. Yusra Afzal	Plastic Surgeon	Title: To determine the frequency of obesity depending on body mass index (BMI) patterns among medical students in Karachi
11.	Dr. Sadia Sundus	Anatomy	Title: A Cross-Sectional Study to Assess the Association of Hypertension Among Cancer Patients Undergoing Chemotherapy at a Tertiary Care Hospital
12.	Dr. Anum Shaikh	Clinical Pathology	Title: Frequency of prehypertension and its associated risk factors among undergraduate medical students in private and public sector universities of Karachi, Pakistan”.
13.	Dr. Saba Arif	Biochemistry	Title: Prevalence of Sunscreen Usage Among Medical Students
14.	Dr. Samina Shameem	Medicine	Title: Assessment of Quality of Sleep in Patients Undergoing Maintenance Hemodialysis Using the Pittsburgh Sleep Quality Index (PSQI)
15.	Dr. Javeria Binte Khalid	Community Medicine	Title: The frequency of awareness about tuberculosis among the people of Karachi



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16.	Dr. Samar Kashif	Skills lab	Title: Frequency of Clinical Iodine Deficiency and its Association with Thyroid Dysfunction among Married Women Aged 18–45 Years Attending SESSI Hospital Karachi
17.	Dr. Rubab Zehra	Pharmacology	Title: Frequency of Emergency Department Visits among Diabetic Patients with Complications
18.	Dr. Syeda Aqeela Zehra	Community Medicine	Title: Association of mental health status of married female doctors with their family structure.
19.	Dr. Maliha Shamim	Physiology	Title: Knowledge and Attitude Regarding Cervical Cancer and Screening among married women
20.	Dr. Usamah bin Waheed	Surgery	Title: Neck pain, its severity and association with quality of life in medical students.
21.	Dr. Zareen Naz	Pharmacology	Title: Parental Awareness and Attitudes toward Routine Childhood Vaccines (Excluding Polio) among Children Under-Five: A Cross-Sectional Study.
22.	Dr. Zubia Babar	Biochemistry	Title: The Knowledge-Plate Paradox: A Comparative KAP Study on Dietary Fiber Consumption among Medical and Non-Medical Students in Karachi.
23.	Dr. Anees ur Rahman	Urology	Title: Frequency of Renal Monitoring and Assessment of Progressive Renal Function Decline in Hypertensive and Diabetic Patients: A Tertiary Care Hospital Experience in Pakistan
24.	Dr. Marium Jamil	Community Medicine	Title: Knowledge, Attitude & Practice of Nursing Staff regarding Infection Control, including Hand Hygiene
25.	Dr. Farhat Fatima	Ophthalmology	Title: Association Between HbA1c Levels and Diabetic Retinopathy in Patients with Type 2 Diabetes Mellitus of ≤ 10 to 15 Years Duration.
26.	Dr. Ayesha Khalid	Pathology	Title: Knowledge, Attitude and Practices (KAP) Regarding Post Exposure Chemoprophylaxis of tetanus Among the General Population of Karachi
27.	Dr. Maha Nisar	Community Medicine	Title: The Role of Nutrition Labelling Use in Dietary Choices for The Management of Diabetes Mellitus
28.	Dr. Qurat ul Ain	Anatomy	Title: Antimicrobial Resistance Awareness and Knowledge Among Young Adults.
29.	Dr. Ayesha Khatoon	Pediatrics	Title: Assessment of practices regarding prevention of nosocomial infections in neonates among nurses at tertiary care hospitals in Karachi.