DEPARTMENT OF MICROBIOLOGY

AUTONOMOUS STATE MEDICAL COLLEGE

HARDOI

Address: Gaura Danda, Sitapur Road, Hardoi, U.P. 241001
e-mail ID: microasmchardoi02@gmail.com

MICROBIOLOGY NEWSLETTER

Volume II (Year: 2024-25)
From: 1st June 2024 to 31st May2025

Dr. Aditi Garg
Officiating HOD
Dean Paramedical
In-charge: Bacteriology, Parasitology, Virology
Dept. of Microbiology, ASMC, Hardoi

Dr. Kriti Maurya
In-charge: Serology, Mycobacteriology, Mycology
Dept. of Microbiology, ASMC, Hardoi

Contributors to the newsletter:
Dr. Sushil Mishra (S.R.)
Dr. Shailaja Singh (S.R.)
All Junior residents, and Staff of Department of Microbiology, ASMC, Hardoi

Special thanks for the never-ending support to
Prof. (Dr.) Javin Bishnu Gogoi
Principal, ASMC, Hardoi
Prof. (Dr.) Narendra Kumar
Vice-Principal, ASMC, Hardoi

FROM EDITOR'S DESK

Dear Readers,

Welcome to the 2nd edition of our Microbiology Department Newsletter. As the microbial world continues to surprise and challenge us, we remain committed to bringing you the latest breakthroughs, emerging trends, and practical insights shaping the field today.

This year's cumulative antibiogram, compiled from various clinical samples received in our laboratory, reveals several noteworthy patterns. We continue to observe fluctuating resistance trends among Gram-negative and Gram-positive isolates. These findings highlight the ongoing need for prudent antimicrobial stewardship and rapid diagnostic support in clinical decision-making.

We continue to support clinicians with rapid tests and ELISA for dengue, scrub typhus, leptospirosis, hepatitis markers, HIV, and other serological profiles. Seasonal variations are notable, with increased requests for febrile illness panels.

Our parasitology laboratory has started stool microscopy. With the help of various national programs introduced, we have started surveillance/ screening of filaria slides received from Hardoi and Sitapur districts. In Mycobacteriology, diagnosis of M.leprae has been started, which is providing help to our clinicians.

To strengthen our diagnostic capabilities, we are pleased to announce the inclusion of new tests in our laboratory workflow. These additions aim to improve turnaround times, enhance pathogen identification accuracy, and expand our ability to detect resistance mechanisms.

I would like to extend my heartfelt gratitude to our culture and sensitivity team, serology unit, and supporting technical personnel. Your dedication, precision, and unwavering commitment to quality form the backbone of our laboratory services. Each of you plays an essential role in ensuring accurate diagnostics, advancing research, and maintaining the highest standards of patient care.

I extend my sincere gratitude to our esteemed **Principal Sir** for his continuous encouragement, guidance, and unwavering support to the Microbiology Department. I would also like to thank our Vice Principal sir, for his constant source of inspiration for all of us. I thank our readers, clinicians, laboratory staff, and researchers for their continued support and engagement.

Together, we strive to uphold high standards in diagnostics, research, and patient care.

Warm regards,

[Dr. Aditi Garg]
Editor, Microbiology Newsletter

FOREWORD

Dear Readers,

It is a pleasure to announce the latest edition of our **Microbiology Newsletter**. This newsletter not only highlights the outstanding work of our dedicated faculty, residents and laboratory staff but also serves as a platform to showcase the significant strides our department continues to make in the fields of diagnostic microbiology, research, and education.

The insights shared in this issue—from the latest antibiogram data and serological testing updates to our newest research initiatives—are a testament to the hard work and determination of our entire team. As we face new challenges in the world of microbiology, I am confident that our department will continue to rise to the occasion, fostering both academic and practical advancements.

I hope this newsletter serves not only as an informative resource but also as an inspiration for all those who are part of our vibrant microbiology family.

With warm regards,

Prof. Dr. J B Gogoi
Principal
ASMC Hardoi

FOREWORD

Dear Readers,

It is with great pride and pleasure that I welcome you to the latest edition of our **Microbiology Newsletter**. This publication is a reflection of the work, dedication, and innovation that define our Microbiology Department.

As Vice Principal, I have had the privilege of witnessing firsthand the dedication of our faculty, residents and staff. I am deeply proud of updates on antibiogram patterns, serological testing, and new diagnostic initiatives that provide a clear picture of how our team continues to push boundaries and address contemporary challenges in microbiology.

I hope this newsletter inspires further collaboration, learning, and advancement, and I thank you all for your ongoing contributions to the field of microbiology.

With warm regards,

Prof Dr. Narendra Kumar
Vice Principal
ASMC Hardoi

DEPARTMENT OF MICROBIOLOGY

AUTONOMOUS STATE MEDICAL COLLEGE, HARDOI

From 1st June 2024 to 31st May 2025

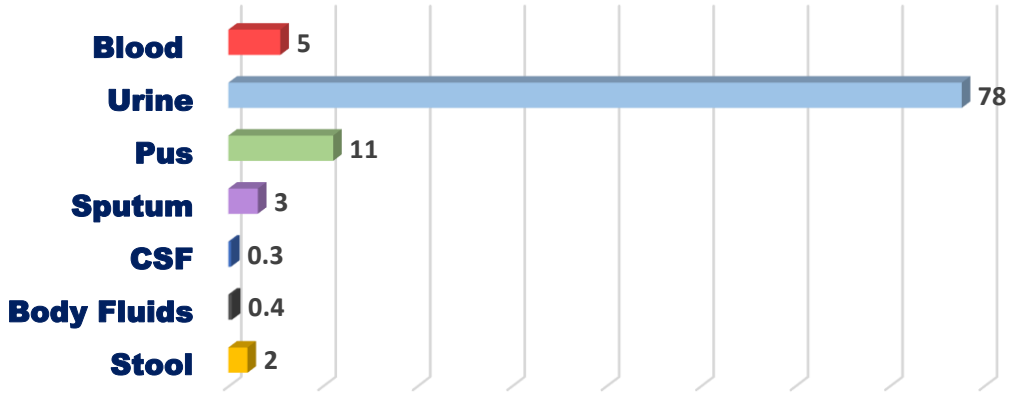
BACTERIOLOGY LAB

Test Performed

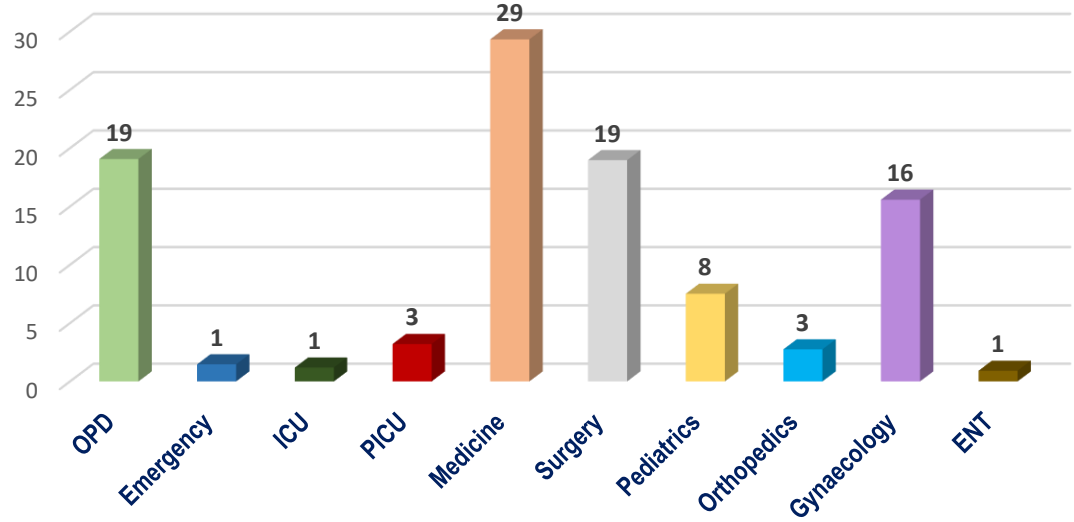
1. Blood – Culture and Sensitivity
2. Urine - Culture and Sensitivity
3. Pus - Culture and Sensitivity
4. Sputum and Other Respiratory Samples - Culture and Sensitivity
5. CSF - Culture and Sensitivity
6. Sterile Body Fluids - Culture and Sensitivity
7. Vaginal Swab – Microscopy, Culture and Sensitivity Testing
8. Stool – Microscopy, Culture and Sensitivity

Total Samples Received = 1091

Sample Distribution (%)

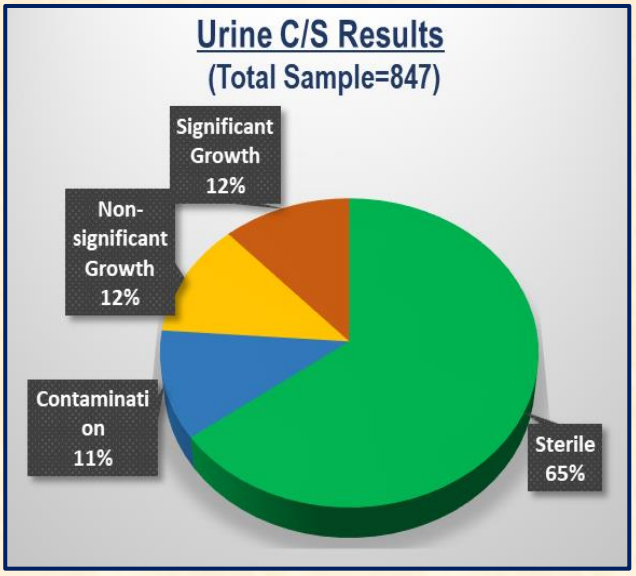


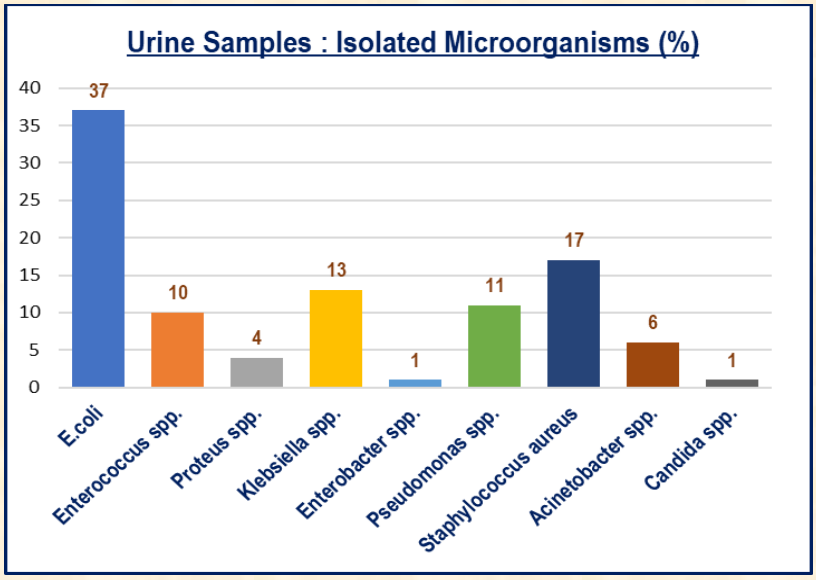
Department wise Sample Distribution (%)

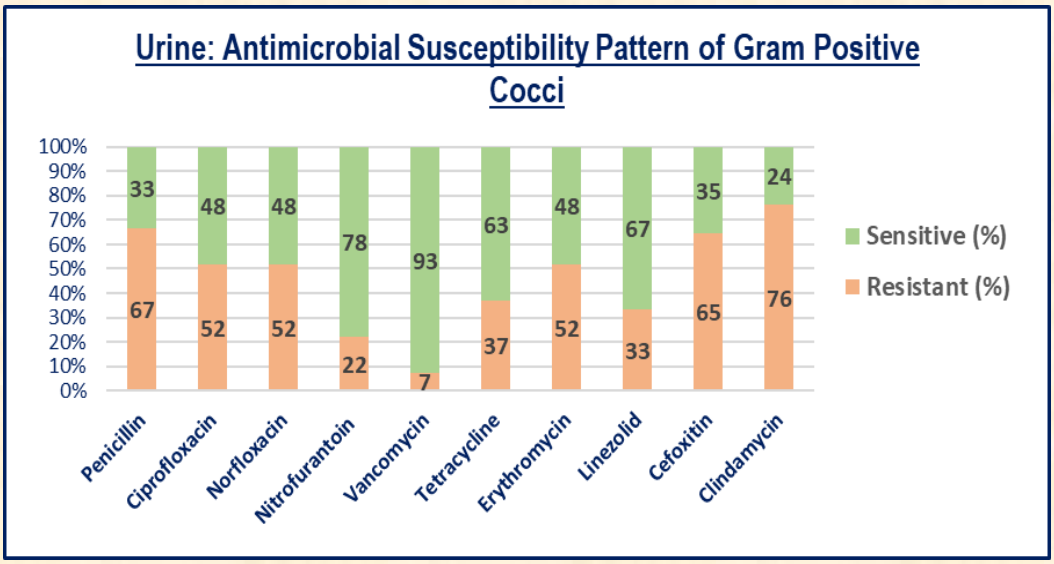


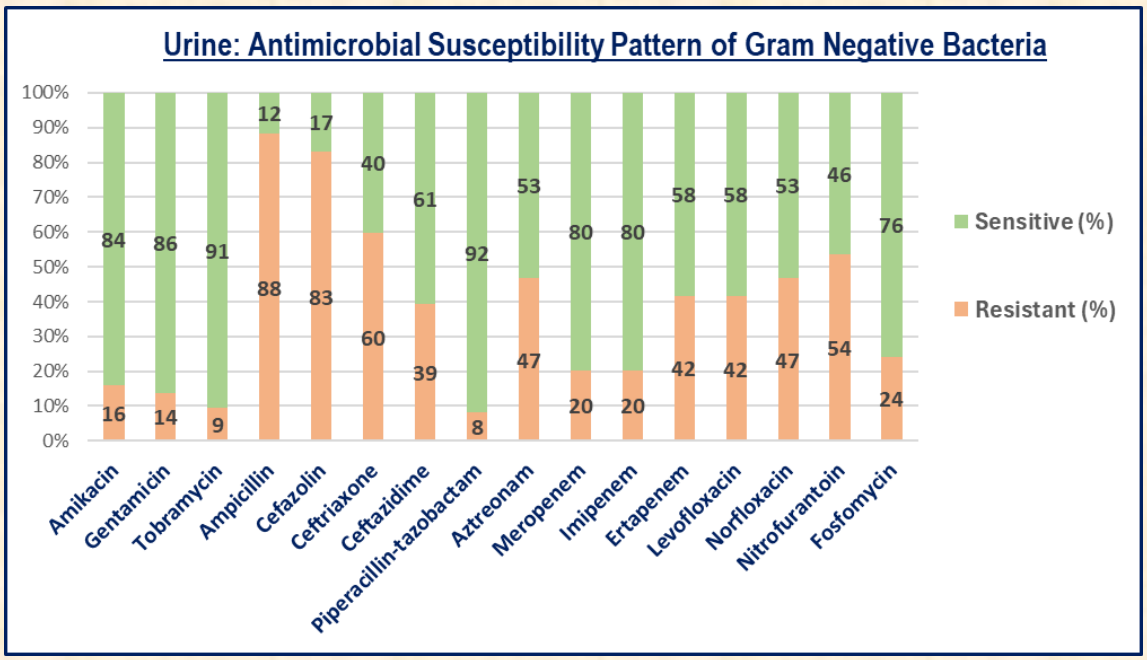
DEPARTMENT OF MICROBIOLOGY
AUTONOMOUS STATE MEDICAL COLLEGE, HARDOI

URINE CULTURE AND SENSITIVITY



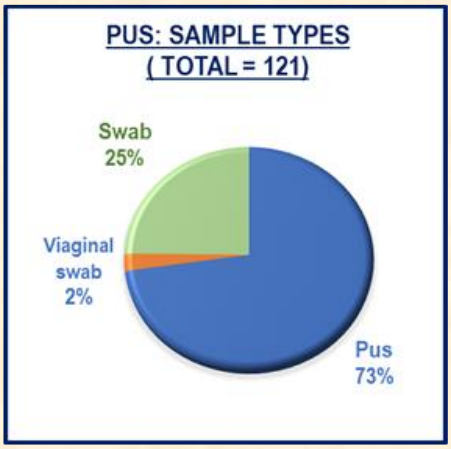


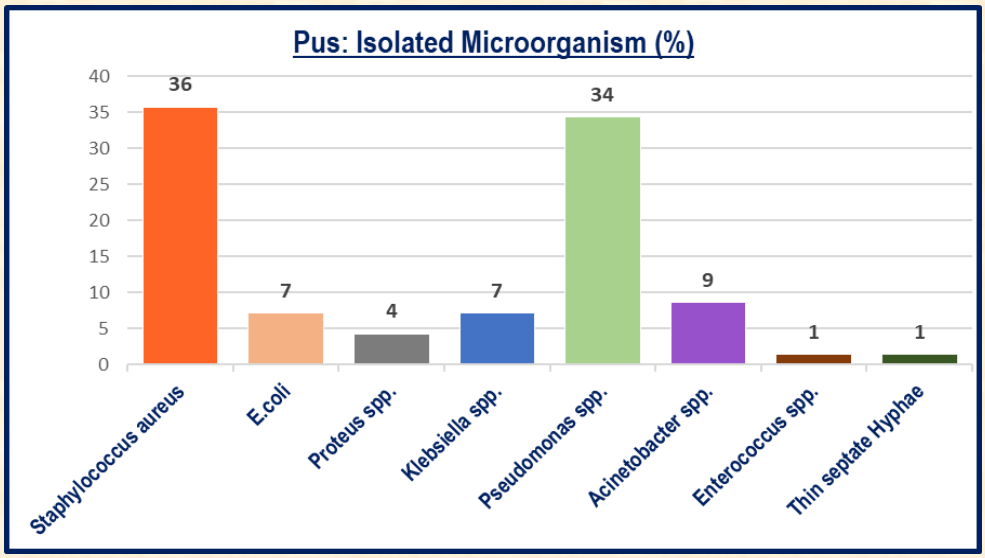


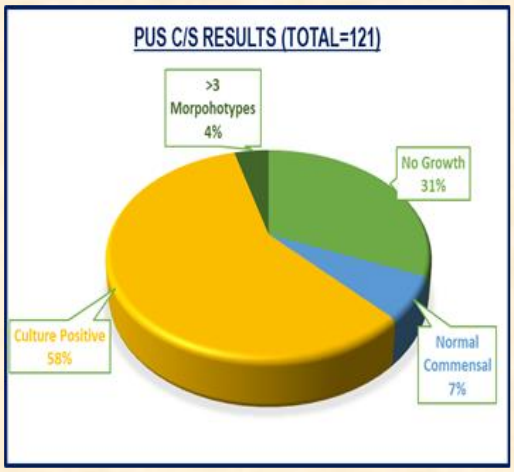


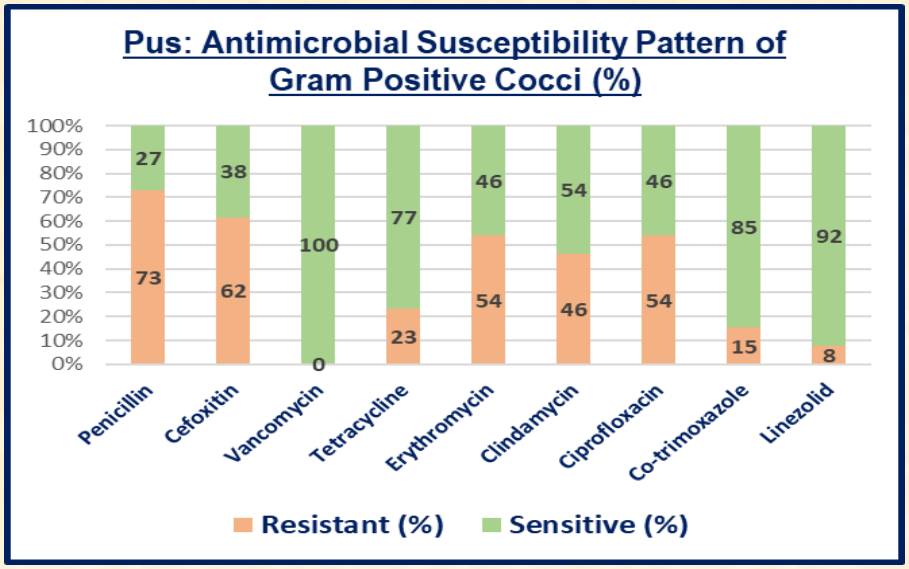
DEPARTMENT OF MICROBIOLOGY
AUTONOMOUS STATE MEDICAL COLLEGE, HARDOI

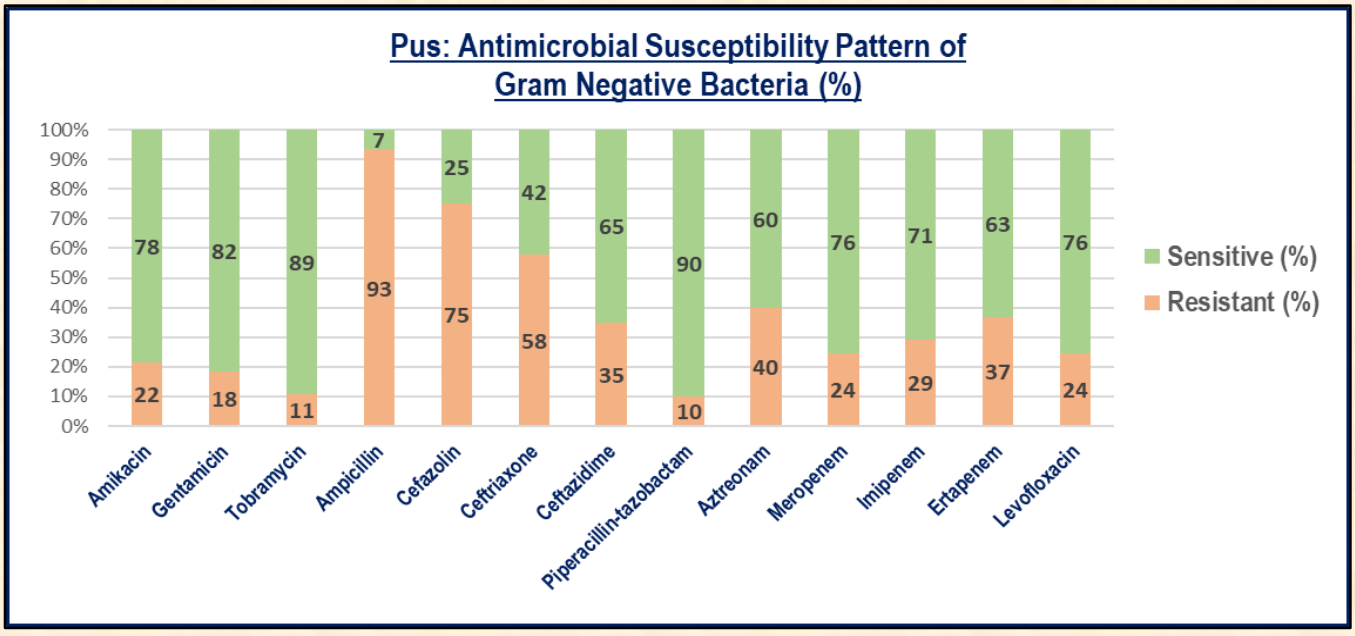
PUS CULTURE AND SENSITIVITY







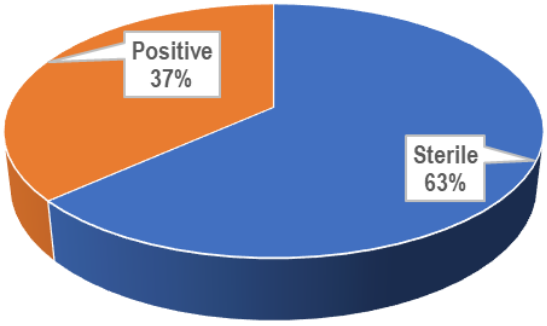




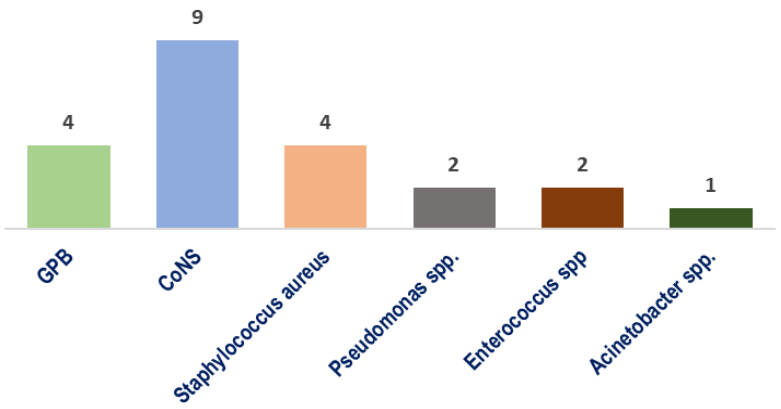
DEPARTMENT OF MICROBIOLOGY
AUTONOMOUS STATE MEDICAL COLLEGE, HARDOI

BLOOD CULTURE AND SENSITIVITY

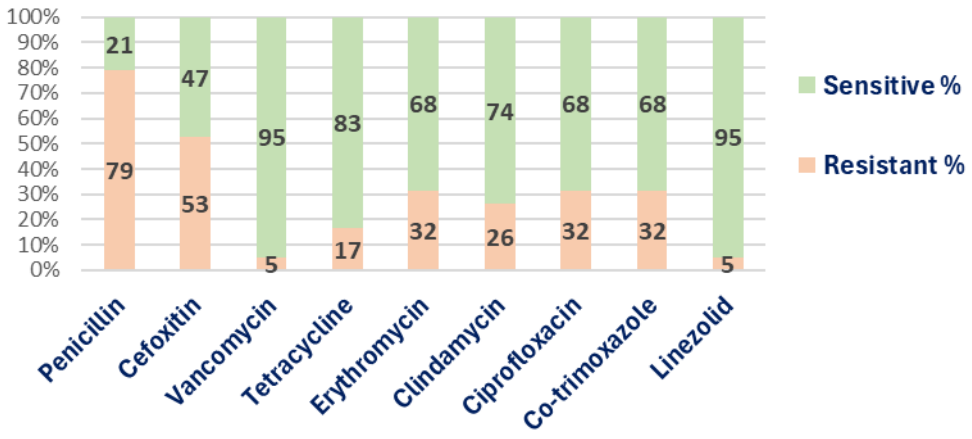
Automated Blood Culture Results (Total Sample = 60)



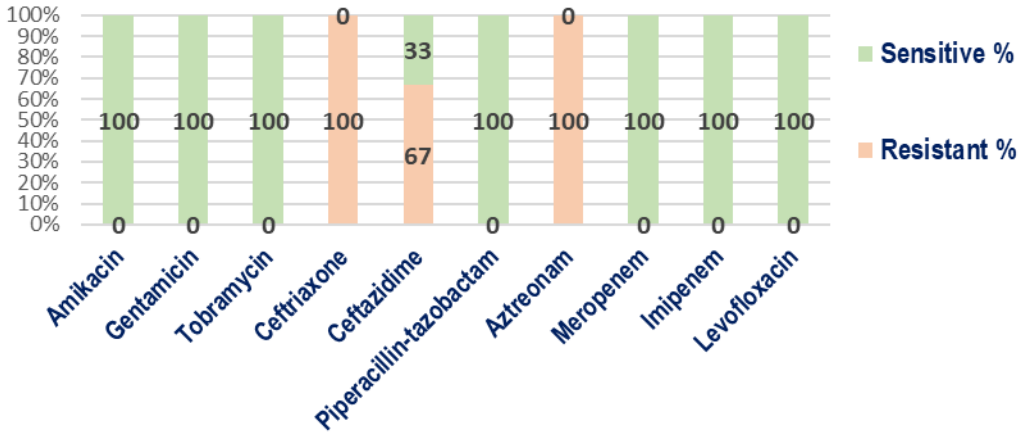
Blood: Isolated Microorganisms (No.)



Blood: Antimicrobial susceptibility Pattern of Gram positive cocci



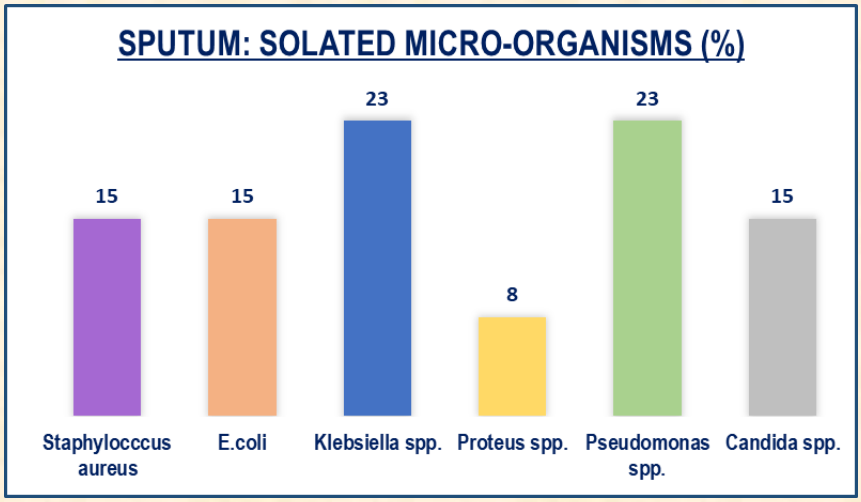
Blood: Antimicrobial Susceptibility Pattern Of Gram negative bacteria



DEPARTMENT OF MICROBIOLOGY
AUTONOMOUS STATE MEDICAL COLLEGE, HARDOI

SPUTUM CULTURE AND SENSITIVITY

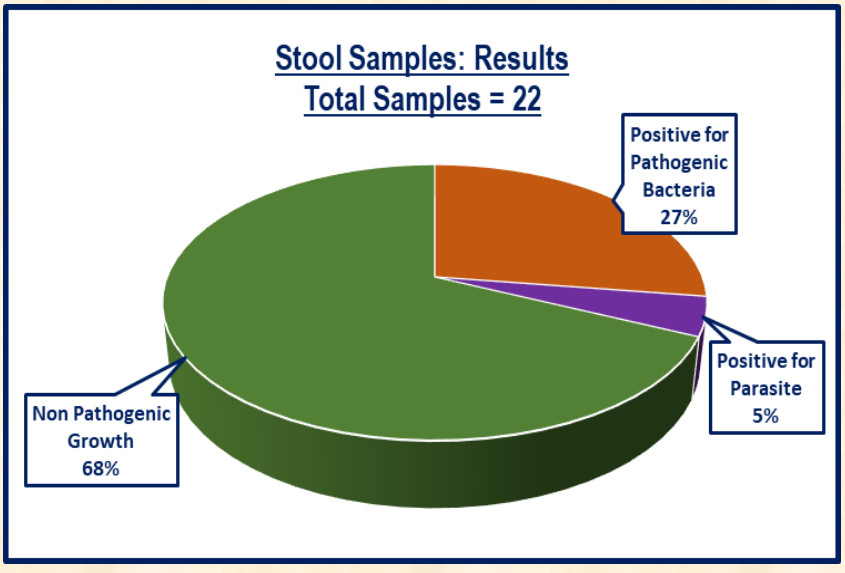
Isolates	No.
Non-Pathogenic Organism	21
Culture Positive	13

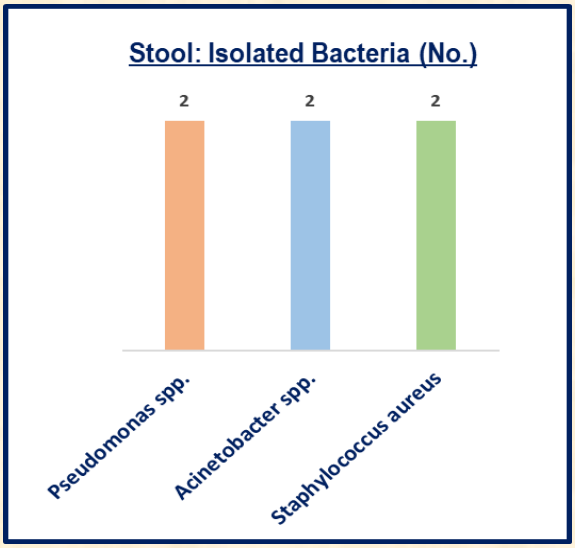


CSF AND OTHER BODY FLUIDS CULTURE AND SENSITIVITY

Sample Type	No.	Sterile	Culture Positive	Isolated Bacteria
CSF	3	2	1	Enterococcus spp.
Ascitic Fluid	3	3	0	----
Synovial Fluid	1	1	0	----

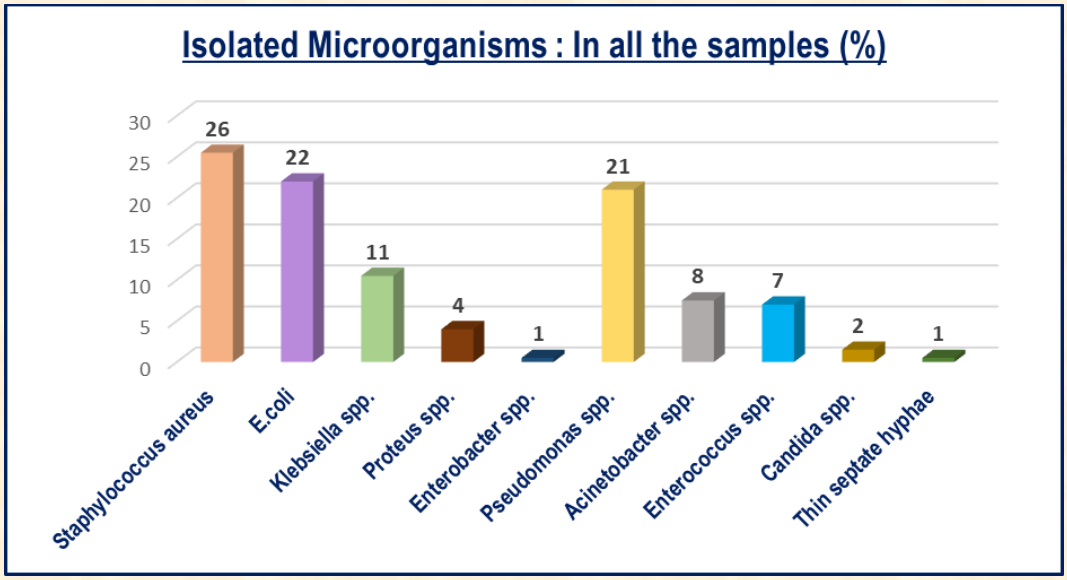
STOOL CULTURE AND SENSITIVITY

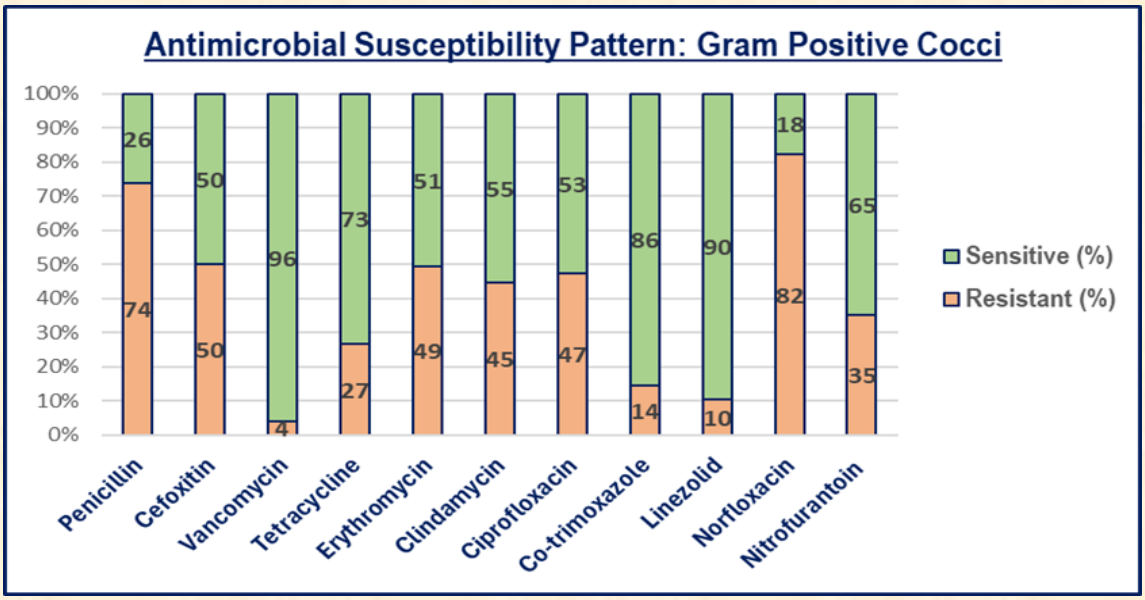


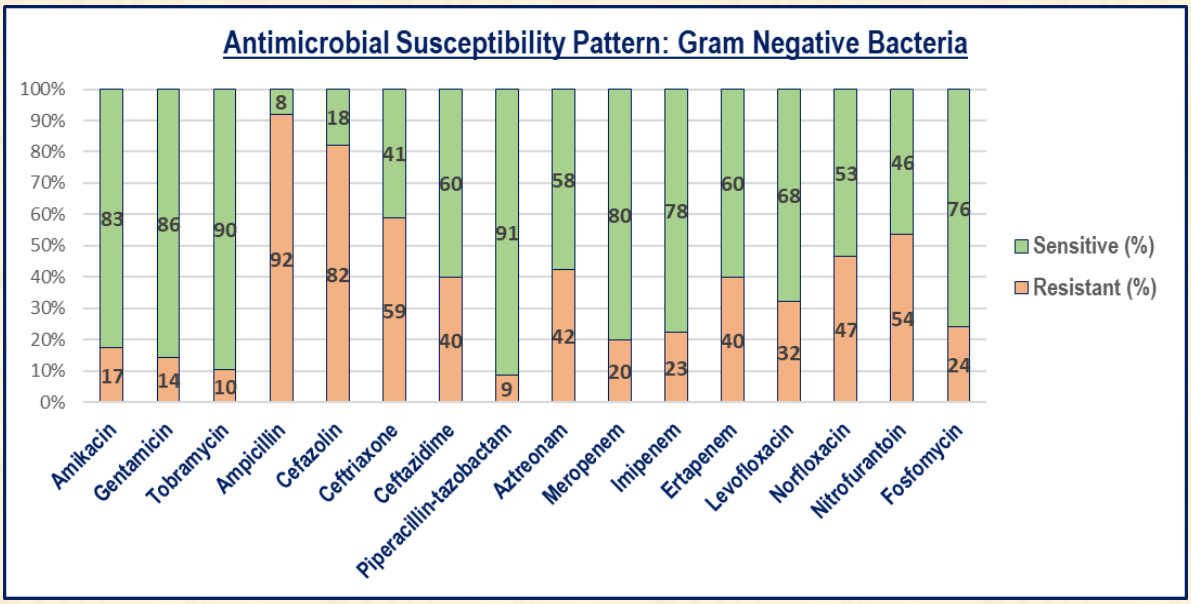


DEPARTMENT OF MICROBIOLOGY
AUTONOMOUS STATE MEDICAL COLLEGE, HARDOI

OVERALL ANALYSIS OF BACTERIOLOGY LAB







DEPARTMENT OF MICROBIOLOGY
AUTONOMOUS STATE MEDICAL COLLEGE, HARDOI

PARASITOLOGY LAB

STOOL MICROSCOPY
Total Samples = 22
Parasite found – cysts and trophozoites of Giardia (1)

Filaria: 365 Peripheral blood smears examined under Nation Filaria Control Program from Hardoi and Sitapur districts

MYCOBACTERIOLOGY LAB

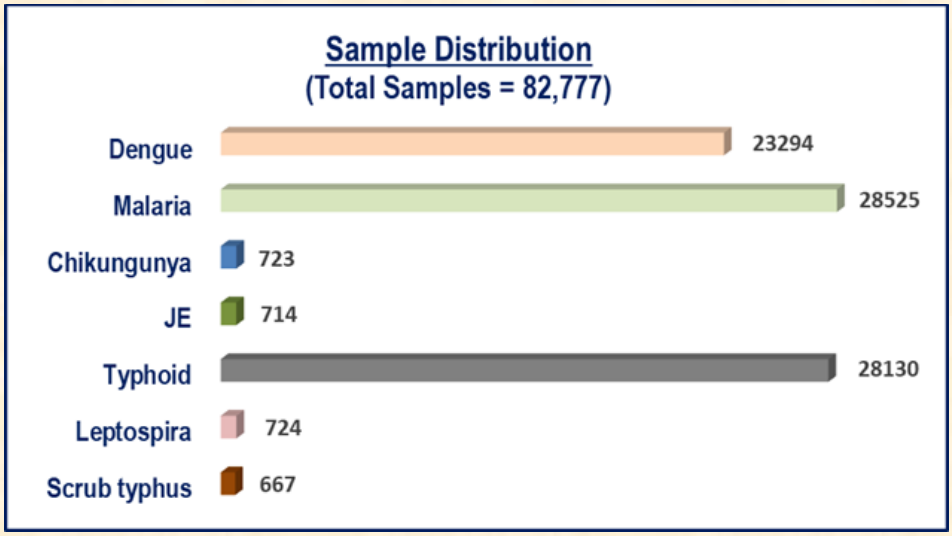
Mycobacterium leprae: slit skin smear
Total samples screened = 54

SEROLOGY LAB

Test Performed

Rapid Card Tests
1. Hepatitis B (HBsAg)
2. Hepatitis C (Anti-HCV Ab)
3. Dengue NS1 Ag/IgM
4. Chikungunya IgM
5. Scrub Typhus IgM
6. Leptospira IgM
7. Malaria Pan/Pf
8. Typhidot IgM/IgG

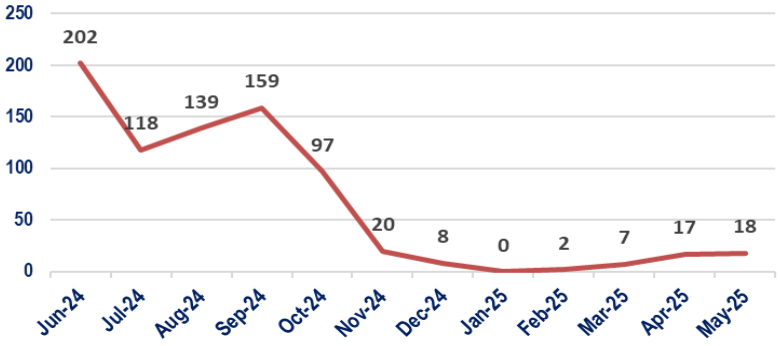
ELISA tests
1. Hepatitis B (HBsAg)
2. Hepatitis C (Anti-HCV Ab)
3. Dengue NS1 Ag & IgM Ab
4. Chikungunya IgM
5. Japanese Encephalitis IgM
6. Scrub Typhus IgM
7. Leptospira IgM



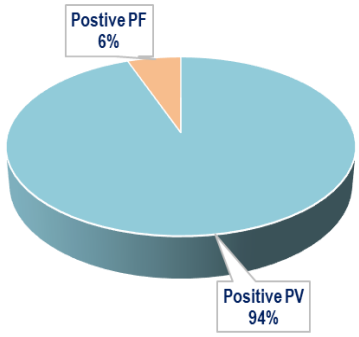
DEPARTMENT OF MICROBIOLOGY

AUTONOMOUS STATE MEDICAL COLLEGE, HARDOI

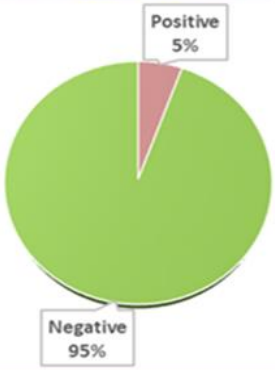
Monthly Trend Of Malaria Positive cases
(Total Positive cases = 787)



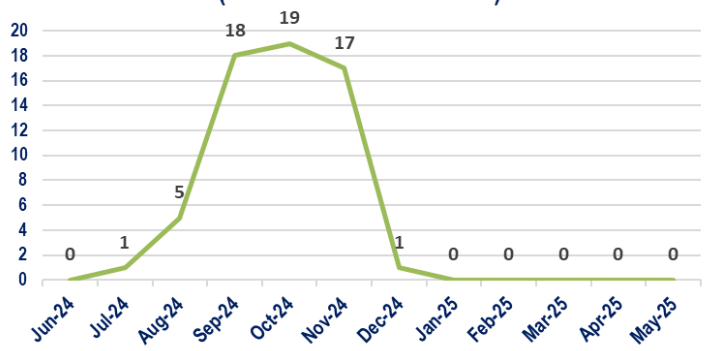
Proportion of *P. vivax* & *P. falciparum* Cases



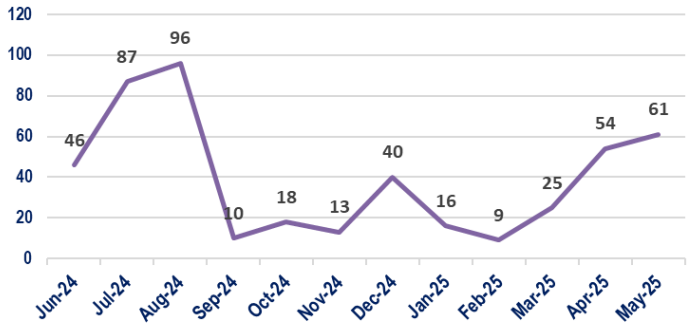
Scrub typhus Results



Monthly Trend Of Dengue Positive cases
(Total Positive Cases =61)



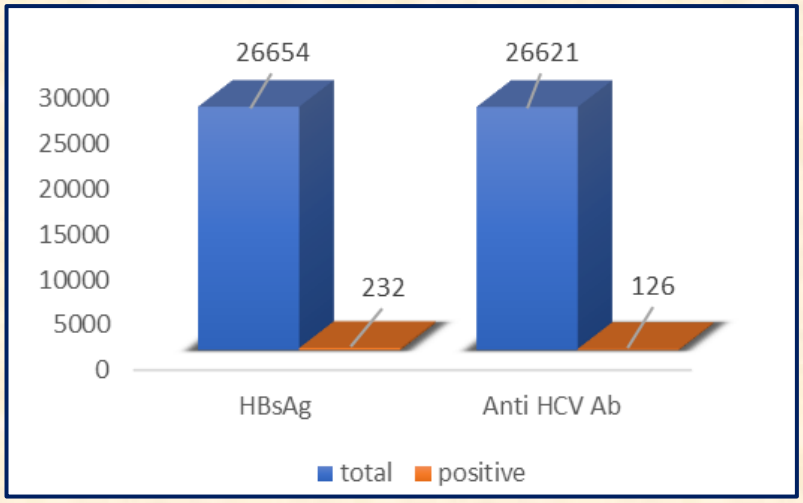
Monthly Trend Of Typhoid Positive cases
(Total Positive Cases = 475)



No Positive cases of Chikungunya, Leptospira and Japanese encephalitis

Positivity rate:

HBsAg: 0.87 %
Anti HCV: 0.47 %



DEPARTMENT OF MICROBIOLOGY

AUTONOMOUS STATE MEDICAL COLLEGE, HARDOI

Highlights:

- A total of 1091 clinical samples were processed for culture and sensitivity.
- Urine samples formed the majority (847), followed by blood, pus, sputum, and other body fluids.
- Overall, high resistance rates were observed to fluoroquinolones and third-generation cephalosporins, emphasizing the need for cautious antibiotic use.
- Piperacillin–Tazobactam, Amikacin and Carbapenems remain the most effective drugs against multidrug-resistant Gram-negative bacilli.
- Methicillin resistant Staphylococcus aureus (MRSA) was found in 50% of the gram positive isolates, which raises concern.
- Vancomycin and Linezolid continue to be reliable options for Gram-positive cocci, including MRSA and Enterococcus.
- The pattern indicates emerging multidrug resistance, particularly among Enterobacteriaceae, requiring ongoing surveillance.
- The highest number of malaria cases was recorded from June to September 2024, with *P. vivax* being more prevalent than *P. falciparum*.
- Most dengue cases occurred between September and November 2024.
- No positive cases of Chikungunya, Leptospira, or Japanese Encephalitis were detected during this period.

Recommendations:

- Proper Infection prevention and control practices (strict Hand Hygiene and Universal precautions) must be followed in all areas.
- Review antibiotic therapy regularly and de-escalate according to the sensitivity results.
- Avoid unnecessary use of broad-spectrum or multiple antibiotics.
- Ensure that samples are collected before the start of antibiotic therapy or before next dose of antibiotic, using full aseptic precautions to ensure accurate results.
- Participate in antimicrobial stewardship and awareness programs.

Recent Addition:

- Widal test (semi-quantitative) started in September 2025
- HBV and HCV Viral Load by PCR Started in November 2025
- Surveillance samples from OTs and Critical care units for Hospital Infection prevention and control from November 2025.

Achivement:

External quality Check (Certified EQUAS)

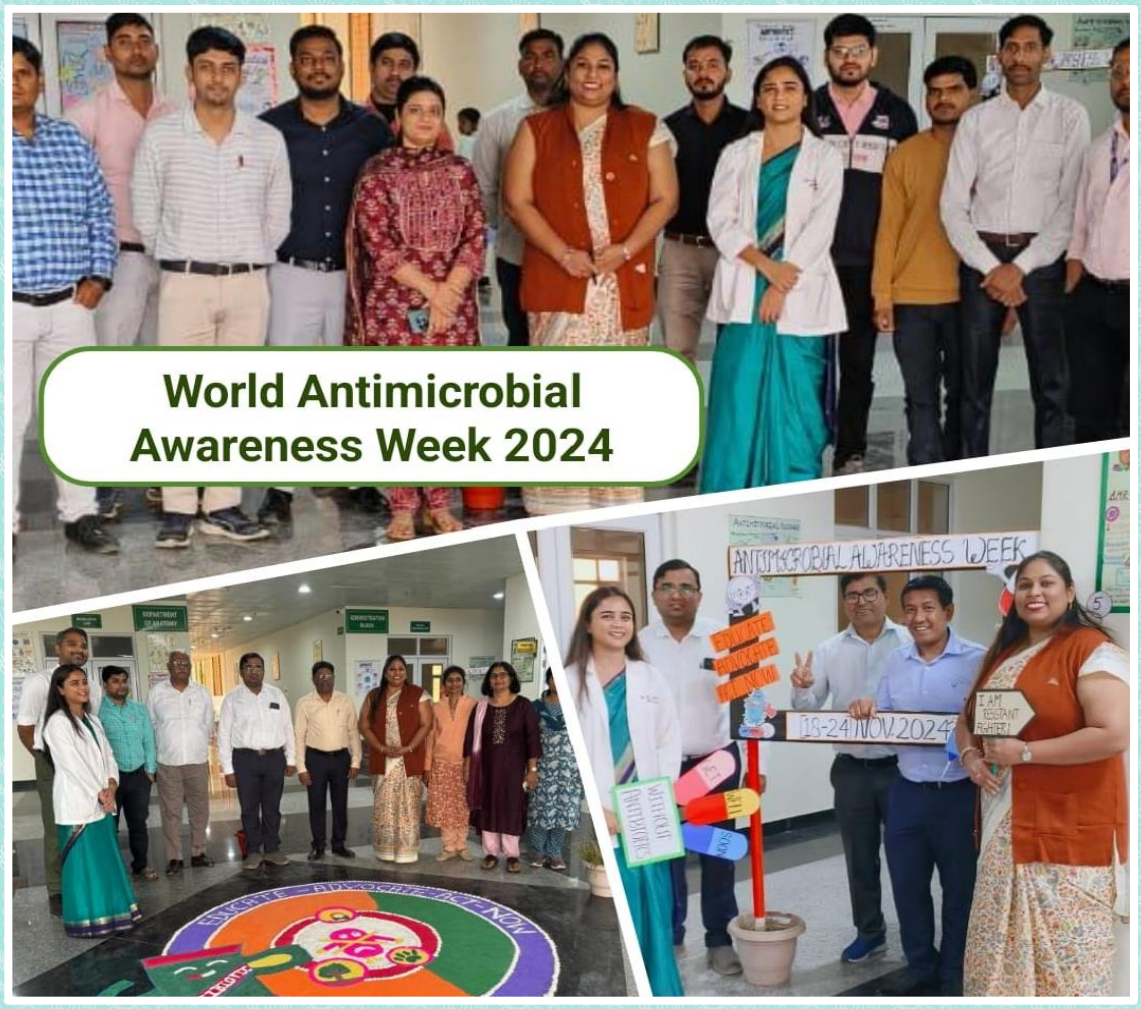
- **Our Bacteriology laboratory has certified for external quality assurance with 89% marks from IAMM EQUAS , New Delhi .**

Publications:

- Garg A, Jaiswal RK, Agarwal D, Verma A, Gupta P, Venkatesh V. A comparative study on different methods for MRSA, bacteraemia, Staphylococcus aureus, mecA detection in Staphylococcus aureus isolates from bacteraemia patients. J Popul Ther Clin Pharmacol. 2024;31(11):2670-2676. doi:10.53555/bjqa2f98.
- Jaiswal R, Garg A, Tripathi P, Venkatesh V. Epidemiology of Panton Valentine leukocidin in clinical Staphylococcus aureus isolates: a prospective study at a tertiary care centre in North India. Clin Epidemiol Glob Health. 2022;15:101006.
- Agarwal D, Garg A, Garg S, Shukla M. Association between sociodemographic profile and body mass index (BMI) in rural population of North India. J Chem Health Risks. 2024;14(4):1542-1546.
- Maurya K, Raj N, Kumar Singh A, Das A, Sen M, Garg J, Agarwal J. A Road Less Traveled: E-test Method for Antifungal Susceptibility Testing in Trichophyton mentagrophyte Isolates Among Patients Presenting With Dermatophytosis at a Tertiary Healthcare Center in North India. Cureus. 2024 Jun 10;16(6):e62047. doi: 10.7759/cureus.62047. PMID: 38989328; PMCID: PMC11234478.
- Anand A, Maurya K, N R K, R R, Jatin CP, Mallya EV, Gilani S, V S A. Assessing Respiratory Tract Infections' Prevalence and Microbial Profiles in Mechanically Ventilated Patients: Insights From Broncho Alveolar Lavage Examination. Cureus. 2024 Apr 12;16(4):e58155. doi: 10.7759/cureus.58155. PMID: 38741882; PMCID: PMC11089268.

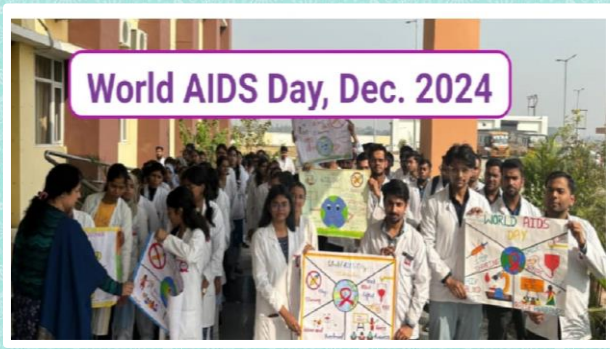
Proposed Research:

- Performance Analysis of an Automated Blood Culture System at a Medical college in North India to get positive results in minimum bacterial load.


World Antimicrobial
Awareness Week 2024
ANTIMICROBIAL AWARENESS WEEK
18-24 NOV 2024


IA & QMS / QC training
(Standard ISO 15189)
Aug 2024
AUDIT REMARKS
Tuberculosis
24 MARCH


World Hepatitis Day
July 2024


World AIDS Day, Dec. 2024


World TB Day
March 2025

मनाया गया वर्ल्ड हेपेटाइटिस डे

हरदोई। स्वासासी राज्य चिकित्सा महाविद्यालय समिति गौरा डंडा में माइक्रोलॉजिक विभाग की ओर से वर्ल्ड हेपिटाइटिस डे मनाया गया। इस मौके पर एमबीबीएस और पैरामेडिकल के छात्रों द्वारा पोस्टर लगाए गए। माइक्रोलॉजिक विभाग प्रभारी डॉक्टर अदिति गर्ग ने बताया कि सोमवार को गौरा डंडा मेडिकल कॉलेज में वर्ल्ड हेपिटाइटिस डे पर हेपेटाइटिस की स्क्रीनिंग और टीकाकरण के बारे में जानकारी दी गई और आम जनता के लिए कुछ जरूरी बातों को भी बताया गया। इस कार्यक्रम में डॉक्टर नरेंद्र कुमार, डॉक्टर दीपक डॉक्टर, संजीव देव आदि मौजूद रहे।

एंटीबायोटिक्स का अधिक प्रयोग सेहत के लिए हानिकारक: डॉ. गोगोई

मेडिकल कॉलेज के कार्यक्रम में बोलते प्राचार्य डॉ. जेबी गोगोई। स्रोत: विभाग

हरदोई। मेडिकल एजुकेशन यूनिट के तत्वाधान में माइक्रोबायोलॉजी विभाग की ओर से सीएमई कार्यक्रम के तहत गोष्ठी की गई।

अध्यक्षता कर रहे प्राचार्य डॉ. जीवेन विष्णु गोगोई ने कहा कि अत्यधिक एंटीबायोटिक्स के उपयोग से सेहत पर कई प्रकार के दुष्प्रभाव होते हैं। उन्होंने दुष्प्रभावों को विस्तार से बताया और कम से कम प्रयोग की सलाह दी। सहायक आचार्य डॉ. अदिति गर्ग व डॉ. कृति मौर्य ने छात्र छात्राओं को एंटीबायोटिक्स के सही उपयोग की कार्यप्रणाली के बारे में समझाया। छात्रों व चिकित्सकों को एंटीमाइक्रोबियल दवाइयों की विवेकपूर्ण उपयोग की शपथ भी दिलाई गई। एमबीबीएस के छात्रों ने पोस्टर प्रस्तुत किए। कार्यक्रम में धन्यवाद ज्ञापन एमईयू कोऑर्डिनेटर डॉ. पुष्पलता सचान ने किया।

उप प्राचार्य डॉ. नरेंद्र ने छात्रों को आवश्यक होने पर ही दवाइयों को उपयोग की बात कही। कार्यक्रम में सीएमएस डॉ. जे के वर्मा, सीएमएस डॉ. सुबोध कुमार, डॉ. दीपक चोपड़ा, डॉ. अमित कुमार सिंह, डॉ. अमित आनंद, डॉ. शिवम यादव, डॉ. निशांत कुमार रहे। (संवाद)

एंटीबायोटिक का सही उपयोग बताया

हरदोई, संवाददाता। मेडिकल कालेज में मंगलवार की शाम से एंटी माइक्रोबियल अवेयरनेस सप्ताह मनाया जा रहा है। इस उपलक्ष्य में मेडिकल एजुकेशन यूनिट के तत्वावधान में माइक्रोबायोलॉजी विभाग ने एक सीएमई कार्यक्रम आयोजित किया।

कार्यक्रम की अध्यक्षता करते हुए प्राचार्य डॉ. जेबी गोगोई ने बताया कि अत्यधिक एंटीबायोटिक के उपयोग से सेहत पर होने वाले दुष्प्रभाव पर प्रकाश डाला। मुख्य व्याख्यान माइक्रोबायोलॉजी विभाग के सहायक आचार्य डा अदिति गर्ग एवं डॉ कृति मौर्य ने प्रस्तुत किया। चिकित्सकों एवं छात्रों को एंटीबायोटिक्स के सही उपयोग की कार्यप्रणाली के बारे में जानकारी दी गई। एमबीबीएस के छात्रों ने पोस्टर प्रस्तुत किया। उपस्थित छात्रों एवं चिकित्सकों को एंटीमाइक्रोबियल दवाइयों की विवेकपूर्ण उपयोग की शपथ दिलाई गई। उप प्राचार्य डॉ. नरेंद्र कुमार ने समस्त छात्रों को बहुत आवश्यक होने पर ही इन दवाइयों को उपयोग करने हेतु निर्देशित किया। कार्यक्रम में मुख्य चिकित्सा अधीक्षक पुरुष चिकित्सालय डॉ. जेके वर्मा, मुख्य चिकित्सा अधीक्षक डॉ. सुबोध कुमार, डॉ दीपक चोपड़ा, डॉ. अमित सिंह, डॉ. अमित आनंद, डॉ. शिवम् यादव, डॉ. निशांत आदि ने प्रतिभाग किया। संचालन माइक्रोबायोलॉजी विभाग की विभागाध्यक्ष डॉ. अदिति गर्ग ने किया। अंत में धन्यवाद ज्ञापन एमईयू कोऑर्डिनेटर डॉ. पुष्पलता सचान ने किया।

दो से तीन दिन में मिलेगी कल्चर रिपोर्ट

माइक्रोबायोलॉजी विभाग में नई मशीन से जांच करते स्वास्थ्य कर्मी।

हरदोई, संवाददाता। मेडिकल कालेज के माइक्रोबायोलॉजी विभाग में ब्लड कल्चर की जांच के लिए मशीन आ गई है। इससे सोमवार को सफल परीक्षण भी किया गया। अब ब्लड कल्चर की जांच रिपोर्ट के लिए लंबा इंतजार नहीं करना पड़ेगा।

प्राचार्य डॉ. जेबी गोगोई ने बताया कि बैक्टीरियोलॉजी लैब की इंचार्ज डॉ अदिति गर्ग हैं। सोमवार को ब्लड कल्चर टेस्टिंग के लिए एक मशीन आ गई है। इससे जांच की शुरुआत की गई है। अभी तक ब्लड कल्चर की जांच मैन्युअल की जा रही थी। इससे रिपोर्ट मिलने में 8 से 9 दिन का समय लगता था, लेकिन इस मशीन से जांच रिपोर्ट अब 2 से 3 दिन के अंदर ही मरीज को प्राप्त हो जाएगी। इस मशीन से पस, पेशाब, सिस्ट स्किन तथा अन्य कई जांचों की सुविधा उपलब्ध है। प्राचार्य ने बताया कि उनकी ओर से लगातार प्रयास किया जा रहे हैं जिससे जिले की जनता को इलाज में काफी लाभ मिल सके।