Introduction:

Antimicrobial resistance (AMR)is “a global health security threat that requires action across government sectors and society as a whole” The World Health Organization (WHO)[1]. In the United States alone, the Centers for Disease Control and Prevention (CDC) reports the excess direct healthcare costs due to AMR to be as high as $20 billion and additional lost for impacted less productivity is as high as $35 billion a year [2].

Aims and Objectives:

The aims and objectives of this study is to calculate incidence of carbapenem resistance in the hospital. This will help to roughly measure the risk currently hanging in this part of India. The other objective is to see the organism wise resistance pattern, which will help us in formulating a good policy to tackle the situation.

Methods:

All positive isolates were taken into account from microbiology lab. Which includes both community and hospital acquired infections and all samples were included from respiratory tract, urine and blood.The isolates were screened for antimicrobial susceptibility testing by Kirby-Bauer disc diffusion method on Mueller-Hinton agar (Hi-Media) and interpreted as per CLSI guidelines. The duration of sample collection is taken w.e.f. January 2017 to October 2018.

Results:

A total of 2219 positive isolates were taken in the study, of which 589 isolates were found to be Carbapenem (Meropenem) resistant (26.54%). The resistant pattern of various organisms is shown in below table.

Bacteria Meropenem Resistant	Total Cases	Percentage
Klebsiella	323	54.84%
Pseudomonas	108	18.34%
Acinetobactor	83	14.09%
E.Coli	60	10.19%
Proteus	10	1.7%

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Enterobactor	2	0.34%
Burkholderia	2	0.34%
Citrobactor	1	0.17%
Total	589	100%

Discussion:

Carbapenem resistant enterobacteriaceae (CRE) are defined as carbapenem-nonsusceptible *Citrobacter freundii*, *Escherichia coli*, *Enterobacter cloacae*, or *Klebsiella pneumoniae* infections. A CRE prevalence rate of 12.26% was found in a study from mumbai[3].However, a recent report based on the systematic literature obtained from the Asian countries, the resistance rate of imipenem and meropenem was reported as 0.2% and 0.5% in *E. coli*, and 1.9% and 2.4% in *Klebsiella* spp[4]. The resistance of e.coli and klebsiella was reported as 16.7% in a rural south India study [5]. The carbapenem resistance as reported by Gupta *et al* in New Delhi [6] is also similar.

Conclusion:

A significant level of carbapenem resistance (26.54%) is seen in this part of India. This is the highest in India at present as per available data. So this warrants more stringent antibiotic policy and other infection control measures in this part of India.

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