

## CHAPTER 4

### METHOD OF RESEARCH

#### 4.1 Research Design

Research was conducted using retrospective analytic method by evaluating the results of sensitivity test of *Klebsiella pneumoniae* towards antimicrobials used in Saiful Anwar General Hospital, Malang in the year of 2009/2010 and 2010/2011 and comparing it with the number of *Klebsiella pneumoniae* infection cases reported.

#### 4.2 Data Results

The data of sensitivity test obtained from the records in Microbiology Installation of Saiful Anwar General Hospital, Malang.

#### 4.3 Location of Research

The research was conducted in Microbiology Installation of Saiful Anwar General Hospital, Malang.

#### 4.4 Operational Definition

- Susceptibility defines the antimicrobials capacity to be affected by either being sensitive or resistant.
- The data of sensitivity test obtained from the records in Microbiology Installation of Saiful Anwar General Hospital, Malang.
- Antimicrobial agents used in the disc diffusion test was recorded as sensitive, intermediate sensitive or resistant as the outcome of antibiotic

sensitivity test according to the inhibition zone diameter provided by the NCCLS.

- Antimicrobials which are used in this study are amoxicillin, amoxicillin-clavulanic acid, ceftriaxone, gentamycin, ciprofloxacin, meropenem, nalidixic acid, nitrofurantoin and cotrimoxazole as this are the common antibiotics used for treatment of *Klebsiella pneumoniae*.

#### 4.5 Data Collection Method

Data was collected retrospectively from the record of antibiotic susceptibility test results from Microbiology Installation of Saiful Anwar General Hospital, Malang and analyzed using Chi Square Test with Confidence Interval 95%,  $\alpha=0.05$  (significant if  $p<0.05$ ), as it is a statistical test commonly used to compare observed data with data we would expect to obtain according to the hypothesis.