Chapter-2

Aim and objectives

The main aim of this work is to study the antimicrobial usage in post-operative wound infections after gastrointestinal surgery with an attempt to promote rational use of antimicrobials and reduce the occurrence of postoperative wound infections. The specific objectives for this study were:

1. To study the prevalence of pathogens in the multi-specialty tertiary care teaching hospital and to assess their sensitivity.

2. To study the prevalence of pathogens from postoperative wound infections in all surgeries and to assess their sensitivity and resistance pattern.

3. To study the prevalence of pathogens from postoperative wound infections after a gastrointestinal surgery to assess their sensitivity and resistance pattern.

4. To study the influence of existing prophylaxis treatment in surgery department.

5. To study the influence of patient’s related factors connective to risk of Postoperative wound infection.

6. To report back the sensitivity data to the treating surgeon in an attempt to promote rational prescribing.

7. To educate the patients regarding hygienic practice and appropriate use of antimicrobials that has to be followed before and after surgery through patient counseling.

8. To compare the incidences of post-operative wound infections in baseline study and intervention study.
9. To compare the antimicrobial selections and cost of antimicrobial treatment before and after the initiation of the study [Empirical Selection Vs Rational Selection Based on the study].

Chapter 3

Prevalence and antimicrobial sensitivity of bacterial pathogens in an Indian rural teaching hospital

3.1. Introduction

Infection is one of the major concern of hospitalized patients leading to morbidity, mortality, prolongs hospital stay, adds to the hospital cost and also blocks other needing patients to get admitted in the ward. Antibiotic resistant infections are difficult, and sometimes impossible, to treat. They lead to longer hospital stays, increased treatment costs, and in some cases, death (Alekish MO et al., 2013). The Global Association of Risk Professionals (GARP) research estimates that approximately 1, 90,000 neonatal deaths in India each year due to sepsis (a bacterial infection that overwhelms the bloodstream). Among these over 30% are attributable to antibiotic resistance (Laxminarayan RR, 2011). Antibiotic resistant hospital infections can be especially deadly because antibiotics are used intensely in hospitals compared with the community, and frequent use drives the development of highly resistant bacteria. Prophylactic antibiotics plays a significant role in the control of infections, however, there has been considerable concern about the emergence and diffusion of antibiotic resistance resulting from random antibiotic use (Gunseren F et al., 1999; Mukhtar AM et al., 2011). Widespread use of broad-spectrum antibiotics is the most important factor, so antibiotic control policy has great importance in drug resistance control. Emergent of pathogens and rapid growth of multi-drug resistance demands periodic review of isolation patterns and its sensitivity. In developed countries constant examination in this field had done for recognizing antibiotic resistance pattern. Recently, the spectrum and the resistance of the pathogenic bacteria have constantly changed year after year because of extensive application of antimicrobial drugs. It is necessary to treat infections by empirical use of antimicrobial drugs as soon as possible to reduce the