

Envm510_m4graded assign

Literature, Russian Literature



Environmental Studies Insert Semester Question One: Various research study methodologies can be applied in different research works depending on their nature. The study designs defer depending on whether a research study is observational or of clinical treatment nature (Jekel, 2007). In the case where epidemiologist wants to carry a study on various effects of antibiotics that are administered to patients before surgery is of clinical treatment in nature. The main objective of the study is to reduce surgical infections in patients whenever these antibiotics are administered on the patients. Having determined the type of study the next big question is the determination of the study design that has to be employed when carrying out this research on the effects of the antibiotics on patients.

The most appropriate study design that will be used when carrying out the research work is the randomized controlled trial (Simon, 2013). The randomized controlled research trail offers an opportunity to carry out experiments that are specific in nature. This is more especially when carrying out clinical trials. Since the objective of the research study is to reduce the level of infections on patients whenever antibiotics are administered on them before surgery, it is therefore prudent that the efficacy of these antibiotics is determined through carrying out of a research study. A randomized controlled trail is therefore the most appropriate research design that should be used whenever the efficacy of a drug is being determined during clinical research experiments.

The randomized controlled research trial will also give the researcher an opportunity to collect information regarding the effects of the antibiotics administered (Meinert, 2012). The information gathered may be on the

adverse effects of the antibiotics or even the manner in which the patients react to them in general. Either, this study design gives the researcher an opportunity to categorize his patients so that different groups are given different types of antibiotics under similar controlled environment with their effects and efficacy on the patients being determined. The randomized controlled trial is the best research design to employ in this research study.

Question Two:

After carrying out a research study on the efficacy of various antibiotics on patients before they undergo surgery for over fifteen years, a new challenge arises of an infection that is resistant to the various antibiotics that have been under study all through. Such a scenario poses a new challenge and threat to the already carried out research work thus giving rise for the need to institute further research work on the antibiotic resistant infection.

The study design that is most appropriate in carrying out such a research study experiment is the single blind randomized trial (Jekel, 2007). Such a research design gives the researcher an opportunity to carry out various experimental trials of a similar nature to different patients who have developed varying levels of the antibiotic resistant infection. The single blind randomized trail also enables the researcher to grade his research based on various levels and degrees. This can be done on the basis of the intensity of the medication needed to help in determining the amount of medication required to treat the antibiotic resistant infection. It also gives the researchers an opportunity to determine what different combinations of drugs that should be administered whenever such an infection occurs.

The study design comes in hand whenever the researchers want to study the

life span of the resistant infection (Meinert, 2012). This enables the researcher to determine the various stages of the infections life span and the manner in which it evolves. Either, the researchers are capable of determining whether there are other strains of the infection under study. This enable the researchers come up with measures that can be employed in controlling the spread of the infections while patients await treatment. Either, it helps in determining the appropriate course of action that should be initiated to completely eradicate it.

References

Jekel, J. F. (2007). *Epidemiology, Biostatistics, and Preventive Medicine Review*. Philadelphia, Pa: Saunders.

Simon, R. M. (2013). *Genomic Clinical Trials and Predictive Medicine*. Cambridge: Cambridge University Press.

Meinert, C. L. (2012). *Clinical Trials Dictionary: Terminology And Usage Recommendations*. Hoboken, N. J: John Wiley & Sons.