Epidemiologic design 8310-2 literature review examples

Health & Medicine, Disease

Nursing

Epidemiologic Design on Studying Tuberculosis

Various systematic molecular and DNA-based epidemiology of tuberculosis used to fingerprint the incident cases attributed to Mycobacterium tuberculosis transmission. Given the information from the previous literature review, it is apparent that epidemiologic study of the disease provides a clear description of analytical approach on study results.

Identified Research Question

Does tuberculosis cases that share DNA fingerprint are epidemiologically relate while reactivated cases due to remote infection have unique fingerprint?

Selected Epidemiologic Study Design

There are several study designs that provides information. However, selecting the best epidemiologic design for this study must consider the practicality, the strengths, and limitations in application to specific research purpose (med. uottawa. ca, N. D.). Given the above research question, it is apparent that the most appropriate design to use is observational rather than experimental. Experimental designs encompasses ethical issues concerning the possible exploitation of living things including humans to harmful substances or practices in order to achieve the desired results. Observational approach (descriptive, cohort, case control, cross-sectional surveys) is a much easier because it can quickly cover the target population. In addition, it represents a research study that reinforces, but not alters what have already occurred.

Not Appropriate Design

Based on the research question, experimental study design (RCT and Quasi-experimental) can be considered as inappropriate as a design framework. This is mainly because of ethical concerns in etiological application. Furthermore, the design tends to be selective of its intended population, which limits the generalizability of the findings of the study. On the other hand, the positive side of employing experimental approach is its capacity to control bias a natural experiments can be selected to perform if ethical factors are at question. However, in terms of practicality, the experimental approach requires longer time frame and more complex procedures that do not guarantee affirmativeness of anticipated results.

Health Data Resources

In terms of assuring the credibility of the collected data, selecting sources is as crucial as finding the best literature to support the study. For example, CDC (Center for Disease Control) provides statistical data about the current pandemic status of tuberculosis per geographic location and demographics. On the other hand, the downside of using CDC as a data source is its limited information that will clarify the global instances of the disease because CDC is a US-based federal agency. Therefore, the collected data may only be limited to the United States population. Finding a suitable and global scale health data source can be satisfied by the information available from the World Health Organization. The international organization of nations focusing on global health conundrums has a more diverse selection of data that are categorized per country, region, demographics, and economic status. The

disadvantage of using the information from this source is that most of them are generalized and may not fit the need for adequate information pointing to the DNA and Epidemiologic studies done specific for tuberculosis. Other credible sources of information are database for Medicine studies, libraries, and publications.

Health Problem Overview

Tuberculosis or collectively known as TB is among the most common public health problems that has already reached a global scale of concern. It is caused by Mycobacterium tuberculosis (Stein, 2011). At the rise of the global pandemic, tuberculosis has infected almost one-third of the world population with more than eight million diagnosed of the disease every year and an average of two million deaths every year (Stein and Baker, 2011). Given the underlying principles on the study of DNA and its role in remote infection and reactivation, it is apparent that the study question needed answering is " are the methodological problems identified in the molecular study of tuberculosis accurate or not based on epidemiologic design"?

References

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