# Importance of measures of disease frequency (incidence and prevalence)

Health & Medicine, Nursing

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Introduction

The most important aspect of epidemiology is the measurement of disease occurrence in a given population over a given amount of time. Measures of disease frequency are epidemiological tools used in the calculation of the rate of recurrence of the disease in a given population over a given period. There are various measures used in epidemiology to measure the frequency of diseases including incidence, counts, prevalence, and survival time. Counts and survival time are rarely used as they provide limited information regarding how the disease may affect the community and the rate at which this may happen (Gerstman, 1998). Incidence and prevalence, however, are very frequent and are the main measures used in determining different aspects of disease frequency as will be discussed.

Incidence of the Disease

The term incidence refers to the frequency of the emergence of new disease cases in previously unaffected population (Hennekens et al., 1987). Measuring the incidence allows researchers to assess the impacts of the new disease in the population and the rate at which this disease would spread in a given period. Incidence is measured through two main methods; incidence rate and incidence risk. Incidence rate is the estimation of the frequency of disease with regards to the population of unaffected individuals and the total period of time when the general population was observed. It is computed by taking the number of disease cases in the population and dividing it by the

total count of person-time units (Aschengrau & Seage, 2008). Incidence rate is significant in estimating the rate of the disease on the general population rather than a single individual.

Incidence risk is the percentage of unaffected individuals who eventually develop the disease in a given period. As such, this measure solely relates to the amount of time when the research is being carried out. Incidence risk is calculated by dividing the number of individuals who develop the disease in a given time by the population of unaffected individuals at the beginning of the study. Incidence risk is effective in assessing the extensiveness of the disease thus allowing epidemiologists and medical researchers to find suitable solutions and mitigation measures possible of curbing the spread of the disease as well as serving in the treatment of the affected population (Marchevsky, 2000).

Prevalence

Prevalence revolves around the percentage of individuals affected by the disease within a given population radius at a given time. It is commonly computed by getting the number of affected individuals and dividing it by the total population size. The data may be obtained from a specific point in the population or different points over a period of time (Peavy et al, 1981). Using different points implies that data from old and new disease cases can be used, which can lead to various problems while researching on the risk factors over a long period. Prevalence is significant in exploring the affected population, which may shed light as to the rate at which the disease may be spreading and the essential actions to be reserved in order to control this spread.

## Conclusion

The measures of disease frequency are relatively significant to epidemiologists and medical researchers in general. They help to understand the gravity of the disease and the most effective medical measures to be applied. Additionally, they assist in disease monitoring and surveillance systems, which are necessary for controlling the spread of the disease.

## References

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