

Research in Surgery

Statistical population

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Abstract:

A statistical population refers to the complete set of individuals, groups, objects, or events that exhibit one or more common characteristics. The total number of members within a population is referred to as the population size or magnitude, denoted by the uppercase letter "N."

Introduction

The concept of the statistical population is fundamental within the domain of statistics. This term pertains to a collective of individuals, objects, or events that share one or more characteristics.¹⁻³

Comprehensive analysis of all members within a statistical population is referred to as a census. However, due to the considerable time and resources required to conduct such a census, researchers frequently opt to study only a subset of the statistical population. The size of the population, represented by "N," signifies the total number of members within that population.⁴⁻⁶

Example 1:

For instance, if a researcher conducts laparoscopic surgeries on a select group of patients with the objective of investigating complications associated with the use of laparoscopy, the statistical population in this case consists of those patients who underwent surgery utilizing laparoscopic techniques.

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Received: 15/10/2024

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Example 2:

In the context of research aimed at assessing job satisfaction among nurses, the research population will consist of the nurses themselves. To gather pertinent information, it is imperative to engage with the nurses and select one or more representative samples from this group. Nonetheless, should the objective involve evaluating the performance of nurses, the assessment may depend on questionnaires completed by patients. While the primary focus of the research is on the nurses, a comprehensive understanding of their interactions and performance necessitates consultation of patient feedback. Initially, it is advisable to categorize nurses based on their years of service into distinct groups, from which a selection should be made to survey their respective patients. In this scenario, the nurses constitute the statistical population, while the selected groups of nurses and their patients serve as the research samples.

Key Points:

- ✓ A population pertains to the entire group from which information is collected and subjected to analytical processing.
- ✓ The process of collecting data from the entire population can pose significant challenges and financial burdens, thereby necessitating the selection and analysis of samples instead.
- ✓ It is essential that sampling from a population is conducted randomly in order to ensure that the results accurately reflect the broader population with a high degree of confidence.
- ✓ A valid and comprehensive statistical study is contingent upon either obtaining information from the entire population or employing appropriate sampling methodologies.

References:

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