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Nota di contenuto	Biostatistics for Oral Healthcare; Contents; Preface; 1 Introduction; 1.1 What Is Biostatistics?; 1.2 Why Do I Need Statistics?; 1.3 How Much Mathematics Do I Need?; 1.4 How Do I Study Statistics?; 1.5 Reference; 2 Summarizing Data and Clinical Trials; 2.1 Raw Data and Basic Terminology; 2.2 The Levels of Measurements; 2.3 Frequency Distributions; 2.3.1 Frequency Tables; 2.3.2 Relative Frequency; 2.4 Graphs; 2.4.1 Bar Graphs; 2.4.2 Pie Charts; 2.4.3 Line Graph; 2.4.4 Histograms; 2.4.5 Stem and Leaf Plots; 2.5 Clinical Trials and Designs; 2.6 Confounding Variables; 2.7 Exercises 2.8 References; 3 Measures of Central Tendency, Dispersion, and Skewness; 3.1 Introduction; 3.2 Mean; 3.3 Weighted Mean; 3.4 Median; 3.5 Mode; 3.6 Geometric Mean; 3.7 Harmonic Mean; 3.8 Mean and

Median of Grouped Data; 3.9 Mean of Two or More Means; 3.10 Range; 3.11 Percentiles and Interquartile Range; 3.12 Box-Whisker Plot; 3.13 Variance and Standard Deviation; 3.14 Coefficient of Variation; 3.15 Variance of Grouped Data; 3.16 Skewness; 3.17 Exercises; 3.18 References; 4 Probability; 4.1 Introduction; 4.2 Sample Space and Events; 4.3 Basic Properties of Probability; 4.4 Independence and Mutually Exclusive Events; 4.5 Conditional Probability; 4.6 Bayes Theorem; 4.7 Rates and Proportions; 4.7.1 Prevalence and Incidence; 4.7.2 Sensitivity and Specificity; 4.7.3 Relative Risk and Odds Ratio; 4.8 Exercises; 4.9 References; 5 Probability Distributions; 5.1 Introduction; 5.2 Binomial Distribution; 5.3 Poisson Distribution; 5.4 Poisson Approximation to Binomial Distribution; 5.5 Normal Distribution; 5.5.1 Properties of Normal 5.5 NORMAL DISTRIBUTION Distribution; 5.5.2 Standard Normal Distribution; 5.5.3 Using Normal Probability Table; 5.5.4 Further Applications of Normal Probability; 5.5.5 Finding the (1-a) 100th Percentiles; 5.5.6 Normal Approximation to the Binomial Distribution; 5.6 Exercises; 5.7 References; 6 Sampling Distributions; 6.1 Introduction; 6.2 Sampling Distribution of the Mean; 6.2.1 Standard Error of the Sample Mean; 6.2.2 Central Limit Theorem; 6.3 Student t Distribution; 6.4 Exercises; 6.5 References; 7 Confidence Intervals and Sample Size; 7.1 Introduction; 7.2 Confidence Intervals for the Mean and Sample Size n When  $\sigma$  Is Known; 7.3 Confidence Intervals for the Mean and Sample Size n When  $\sigma$  Is Not Known; 7.4 Confidence Intervals for the Binomial Parameter p; 7.5 Confidence Intervals for the Variances and Standard Deviations; 7.6 Exercises; 7.7 References; 8 Hypothesis Testing: One-Sample Case; 8.1 Introduction; 8.2 Concepts of Hypothesis Testing; 8.3 One-Tailed Z Test of the Mean of a Normal Distribution When  $\sigma$  Is Known; 8.4 Two-Tailed Z Test of the Mean of a Normal Distribution When  $\sigma$  Is Known; 8.5 t Test of the Mean of a Normal Distribution; 8.6 The Power of a Test and Sample Size; 8.7 One-Sample Test for a Binomial Proportion

## Sommario/riassunto

Biostatistics for Oral Healthcare offers students, practitioners and instructors alike a comprehensive guide to mastering biostatistics and their application to oral healthcare. Drawing on situations and methods from dentistry and oral healthcare, this book provides a thorough treatment of statistical concepts in order to promote in-depth and correct comprehension, supported throughout by technical discussion and a multitude of practical examples.