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for causal decisions; 4.2.1 Necessary criteria; 4.2.2 Quasi-necessary criteria; 4.2.3 Other supportive criteria; 4.3 Objective knowledge and consensus method; 4.4 Summary; Quiz of Chapter 4; 5 Basic Principles of Measurement; 5.1 What is measurement?; 5.2 Why does one perform measurement?; 5.3 How does one measure?; 5.3.1 Measurements in socio-behavioral science; 5.4 Accuracy of measurement: Validity and reliability; 5.5 Scales of measurement; 5.5.1 Nominal scale: A scale of qualitative measurement
5.5.2 Ordinal scale: A scale of semi-quantitative measurement5.5.3 Interval scale: Quantitative measurement with or without an absolute zero starting point; 5.5.4 Ratio scale: Quantitative measurement with an absolute zero starting point; 5.6 Common evaluation method in medical diagnostic tests; 5.7 Validity and reliability of physico-chemical, biological and socio-behavioral measurements from a refutationist's point of view; 5.7.1 Measurement of chemicals in the environment or inside the human body
5.7.2 Conceptualization of exposure dose and its measurement in occupational and environmental medicine5.7.3 Validity and reliability of socio-behavioral measurement; 5.8 How to perform accurate measurement by questionnaire Limitations of questionnaire information; 5.8.1 Construction of a questionnaire; 5.8.2 Interview procedures; 5.9 Summary; Quiz of Chapter 5; 6 Basic Measurements in Epidemiological Research; 6.1 Evolving trends in epidemiological measurement; 6.2 Basic measurements of outcome in epidemiology
6.2.1 Outcome measurement: Counting of events and states, rate, proportion, and ratio

Sommario/riassunto

Based on the concept of "conjecture and refutation" from the Popperian philosophy of science, i.e. looking for alternative causes, this book simplifies the design and inferences of human observational studies into two types: descriptive and causal. It clarifies how and why causal inference should be considered from the search for alternative explanations or causes, and descriptive inference from the sample at hand to the source population. Furthermore, it links the health policy and epidemiological concept with decisional questions, for which the basic measurement can be quality-adjusted surv