



UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Elaborazioni Computerizzate delle Informazioni Ottenute da Piani di Prevenzione Dentale

2627-3-I0301D033-I0301D051M

Aims

Knowledge and understanding

Students will acquire fundamental knowledge of clinical data management and validation, principles of data cleaning, and the main methodologies used to design and conduct surveys in healthcare and dentistry.

Applying knowledge and understanding

Students will be able to organize and assess the quality of clinical databases, identify errors and inconsistencies, manage missing data, and use basic computer tools for data quality control. They will also be able to design and apply appropriate data collection tools for research and preventive purposes.

Making judgements

Students will develop the ability to critically evaluate the reliability of collected data, select appropriate data management strategies, and choose the most suitable survey methodologies according to research objectives and clinical context.

Communication skills

Students will acquire the ability to present, interpret and discuss clinical data and survey findings using appropriate scientific terminology while collaborating effectively with other healthcare professionals.

Learning skills

Students will develop the competencies required for independent updating of their knowledge in data collection and analysis methodologies and in the use of computer-based tools supporting research and professional practice.

Contents

Principles of clinical data management, organization and validation. Data cleaning techniques, management of missing data and database quality assessment. Design and implementation of healthcare surveys. Types of questionnaires, data collection methodologies and their applications in dental research and prevention.

Detailed program

- Introduction to computerized clinical data management.
- Data quality and the importance of data cleaning.
- Identification and management of missing data.
- Strategies for imputation, exclusion and documentation of missing values.
- Range checks and identification of outliers.
- Standardization of coding systems and data harmonization.
- Cross-validation of variables and logical consistency checks.
- Correction, validation and traceability of modifications in clinical databases.
- Use of computer software (e.g., Microsoft Excel) for data quality control.
- Objectives of surveys in healthcare.
- Collection of data concerning knowledge, attitudes, behaviours, perceptions and quality of life.
- Planning surveys to support prevention and research.
- Data collection methodologies: questionnaires, interviews, focus groups and systematic observation.
- Self-administered and interviewer-administered questionnaires: characteristics, advantages, limitations and fields of application.
- Classification of questionnaires: structured, semi-structured and unstructured.
- Criteria for questionnaire design, validation and administration.
- Applications of surveys in clinical and epidemiological research and in planning dental prevention programmes.

Prerequisites

Attendance is mandatory.

Teaching form

All teaching activities are delivered through face-to-face lectures.

Textbook and teaching resource

Teaching materials provided by the lecturer during the course.

Semester

First semester.

Assessment method

Oral exam.

Office hours

Friday, 9:00 a.m.–2:00 p.m.

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING
