

DENT-2340: COMMUNITY ORAL HEALTH I

Cuyahoga Community College

Viewing: DENT-2340 : Community Oral Health I

Board of Trustees:

May 2022

Academic Term:

Fall 2022

Subject Code

DENT - Dental Hygiene

Course Number:

2340

Title:

Community Oral Health I

Catalog Description:

Study of principles of public health dentistry. Research design as it relates to scientific journal articles. Concepts of biostatistics, public health promotion, prevention of oral disease, and dental health education. The public health dental care approach to preventive dentistry. Community service exit requirement for graduation.

Credit Hour(s):

1

Lecture Hour(s):

1

Requisites

Prerequisite and Corequisite

DENT-1400 Preventive Oral Health Services II.

Outcomes

Course Outcome(s):

Evaluate the concept of Public Health Dentistry and how it relates to dentistry and dental hygiene.

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Objective(s):

1. Define public health and describe its functions.
2. Identify types of disease prevention and list examples.

Course Outcome(s):

Explain the role of preventive measures in the prevention of oral disease to members of the community.

Objective(s):

1. State the age-appropriate dosage levels of supplemental fluoride as established by the American Dental Association (ADA).
 2. Relate the cost of fluoride/fluoridation to its savings.
 3. Explain the acute toxicity caused by fluoride and list levels of toxicity, symptoms, and treatment.
 4. Define fluoridation and describe its process in the oral disease prevention.
 5. Explain the chronology of fluoride research (Dr. McKay), and its role in public health dentistry.
 6. Describe the effects of prenatal fluoride consumption.
 7. Present advantages and disadvantages, effectiveness value of various preventive measures, including water fluoridation.
 8. Discuss implementation of fluoride programs in the community.
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Course Outcome(s):

Evaluate the effects of Public Health and the environment in a community.

Objective(s):

1. Discuss the organization of the dental public health profession in the United States.
 2. Explain the hierarchy of public health organizations.
 3. Describe key international dental care delivery systems.
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Course Outcome(s):

Interpret and apply biostatistics data from scientific literature to aid in evidence-based decision making.

Essential Learning Outcome Mapping:

Quantitative Reasoning: Analyze problems, including real-world scenarios, through the application of mathematical and numerical concepts and skills, including the interpretation of data, tables, charts, or graphs.

Objective(s):

1. Define biostatistics and identify how it can be of value in the study of human health.
 2. Define the three measures of central tendency and provide practical examples of each.
 3. Define terminology pertaining to biostatistics.
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Course Outcome(s):

Analyze epidemiology and correlate its value to the oral health system.

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Objective(s):

1. Formulate the variables important in choosing a sample.
 2. Identify experimental research controls.
 3. Define and interpret the principles as well as types of research and oral epidemiology.
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Course Outcome(s):

Evaluate a scientific journal relating to the hypothesis, procedures, sample selection, as well as strengths and weaknesses.

Essential Learning Outcome Mapping:

Information Literacy: Acquire, evaluate, and use information from credible sources in order to meet information needs for a specific research purpose.

Written Communication: Demonstrate effective written communication for an intended audience that follows genre/disciplinary conventions that reflect clarity, organization, and editing skills.

Objective(s):

1. Define terminology pertaining to biostatistics.
 2. Acquire, evaluate, and apply biostatistics data from scientific literature to aid in evidence-based decision making.
 3. Develop a well-organized and logically written analysis of a journal article.
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Course Outcome(s):

Create an informed consent for a community research project.

Essential Learning Outcome Mapping:

Written Communication: Demonstrate effective written communication for an intended audience that follows genre/disciplinary conventions that reflect clarity, organization, and editing skills.

Objective(s):

1. Apply the principles of informed consent.
 2. Select population-specific competencies for a target population.
 3. Develop a well-organized and logically written community research project utilizing the principles of informed consent.
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Course Outcome(s):

Correlate the components of health education as it relates to demographics and culture.

Objective(s):

1. Categorize questionnaires as a source of statistical data and describe how this applies to health education.
 2. Discuss the principles of lesson plans in dental health education.
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Methods of Evaluation:

1. Quizzes
2. Journal Article Analysis
3. Informed Consent for Research Project
4. Examinations

Course Content Outline:

1. Introduction to public health
 - a. Functions of public health
 - i. Assessment
 - ii. Policy development
 - iii. Assurance
 - b. Disease prevention
 - i. Primary
 - ii. Secondary
 - iii. Tertiary
 - c. Community water fluoridation
 - i. McKay's discovery of fluoride
 - ii. Dosage
 - iii. Cost saving
 - iv. Anti-fluoridationists
 - v. Toxicity
 - d. Other fluoride treatment modalities
 - i. Supplemental fluoride dosage
 - ii. Quality of evidence & recommendation
 - e. Dental sealants
2. Public health promotion and the environment
 - a. US Governmental
 - i. Department of Health & Human Services
 - ii. Public Health Service Commissioned Corps
 - iii. National Institute of Health
 - iv. Food & Drug Administration
 - v. Center for Disease Control
 - vi. Indian Health Service
 - vii. Centers for Medicare & Medicaid Services
 - b. Workforce issues
 - i. Need
 - ii. Demand
 - iii. Utilization
 - iv. Providers
 - c. International dental care delivery systems
 - i. World Health Organization
 - ii. International Federation of Dental Hygienists
 - iii. Models of Supervision
3. Target populations
 - a. Population specific competencies
 - b. Cultural diversity
 - c. Barriers to care
4. Ethical principles in research

- a. Bioethics
 - i. Nonmaleficence
 - ii. Beneficence
 - iii. Autonomy
 - iv. Paternalism
 - v. Justice
- b. Institutional review boards
- c. Informed consent
- 5. Biostatistics
 - a. Data categorization
 - i. Continuous vs discrete
 - ii. Scales of measurement
 - iii. Descriptive vs inferential statistics
 - iv. Sample vs population
 - b. Central tendency
 - i. Mean
 - ii. Median
 - iii. Mode
 - c. Measures of dispersion
 - i. Range
 - ii. Variance
 - iii. Standard deviation
 - d. Normal distribution
 - e. Graphing
 - i. Frequency distribution
 - ii. Types
 - f. Correlation
 - g. Statistical decision making
 - i. Null hypothesis
 - ii. P value
 - iii. Type I & II errors
 - h. Inferential statistics
 - i. T-test
 - ii. ANOVA
 - iii. Chi-square
 - i. Interpretation
 - i. Validity
 - ii. Reliability
- 6. Evaluation of scientific literature & dental products
 - a. FDA
 - b. ADA Seal
 - c. Hierarchy of evidence
 - d. Criteria
 - e. Research Design
 - i. Parallel vs crossover
 - ii. Calibration
 - iii. Statistical significance
 - iv. Peer review
 - v. Elements of a journal
- 7. Epidemiology
 - a. Definitions
 - i. Endemic
 - ii. Pandemic
 - iii. Epidemic
 - iv. Rate
 - v. Count
 - vi. Prevalence
 - vii. Incidence

- viii. Reliability
 - ix. Validity
- b. Reports
 - i. MMWR
 - ii. Healthy people reports
 - iii. Surgeon general's report
 - iv. Global oral health surveys
- c. Concepts
 - i. Risk
 - ii. Causality
 - iii. Effectiveness trial
 - iv. Efficacy trial
- d. Types of studies
 - i. Descriptive
 - ii. Analytical
 - iii. Ecological
 - iv. Evidence pyramid
 - v. Systemic reviews & meta analysis
- e. Current findings in oral epidemiology
- 8. Research
 - a. Evidence-based practice
 - b. Scientific method
 - c. Hypothesis
 - d. Types
 - i. Historical
 - ii. Descriptive
 - iii. Experimental
 - 1. control groups
 - 2. placebo
 - 3. double blind
 - iv. Quasi-experimental
 - e. Sampling
 - f. PICO (patient/population, intervention, comparison and outcomes) question
- 9. Questionnaires
 - a. Types
 - b. Validity
 - c. Reliability
 - d. Response rate
 - e. Designing for research project
- 10. Lesson plan development
 - a. Learning objectives
 - b. Learning domains
 - c. Levels of learning
 - d. Evaluation

Resources

Burt, B.A. Eklund, S.A. (2005) *Dentistry, Dental Practice and the Community*, St. Louis, MO: Saunders Elsevier.

Geurink, K. V. (2012) *Community Oral Health Practice for Dental Hygienist*, St. Louis, MO: Saunders Elsevier.

Mason, J. (2010) *Concepts in Dental Public Health*, Philadelphia: Lippincott, Williams & Wilkins.

Nathe, C.N. (2017) *Dental Public Health and Research; Contemporary Practice for the Dental Hygienist*, Boston, MA: Pearson.

Frantze-Hawley, J. (2014) *Evidence-Based Dentistry for the Dental Hygienist*, Hanover Park, IL: Quintessence Books.

Harris, N., Garcia-Godoy, F. & Nathe, C. (2016) *Primary Preventive Dentistry*, Boston: Pearson.

Henry, R.K. & Goldie, M.P. (2016) *Dental Hygiene Applications to Clinical Practice*, Philadelphia: F.A. Davis Company.

Resources Other

www.adha.org

<http://www.nidcr.nih.gov>

www.dentalcare.com

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