

24SC803 ADVANCES IN COMMUNITY NUTRITION AND PUBLIC HEALTH 4:0:0:4

Community nutrition and public health play an essential role in helping to promote healthy population by adopting nutrition education, improving access to nutritious food and nutrition interventions to public health. This reduces the risk of communicable diseases, chronic diseases and improve the quality of life for people in the communities.

Course Objectives:

1. To obtain basic knowledge on the nutritional epidemiology and public health policies.
2. To analyze and study the fundamentals of research methodology related to grant proposal writing.

Course Outcomes:

CO1: Acquire knowledge on the principles of epidemiological research in public health.

CO2: Gain knowledge on community nutrition interventions and polices.

CO3: Understand the relationship between global health issues and nutrition impact.

CO4: To learn on emergency nutrition and resilience building programmes.

CO5: Comprehend the guidelines and strategies for writing grant research proposals.

CO-PO Mappings

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2	PSO3	PSO4
CO1	1	3	-	-	-	3	-	-	2	-	-
CO2	1	3	-	-	-	2	-	-	2	-	-
CO3	1	3	-	-	-	3	-	-	2	-	-
CO4	1	3	-	-	-	3	-	-	2	-	-
CO5	1	3	-	-	-	2	-	-	2	-	-

Unit 1: Advanced Epidemiology and Public Health

Principles and methods of epidemiological research in public health. Analysing and interpreting of epidemiological data. Advanced statistical methods and analysis of data in epidemiology. Advanced methods in disease surveillance and outbreak investigation. Epidemiology of chronic and infectious diseases. Evaluation of public health initiatives, Primary health care, MDGs & SDGs, Nutrition Food Security, Factors affecting, National food security Act, Food Security system in India-E-POS-Food Security portal in India.

Unit 2: Community Nutrition Interventions and Policies

Assessment and Surveillance: Rapid needs assessments and nutritional surveys, Monitoring and evaluation of nutritional status in emergencies, Tools and methodologies. **Designing and evaluating community-based nutrition interventions,** Planning and implementing nutrition programs in diverse communities. Evaluation methods for nutrition interventions. Nutrition policy development and analysis. Role of policy in shaping public health nutrition outcomes. Food security and sustainable nutrition programs. National nutrition program-NNP, NNS, NNMP, ICDS, NNM-Poshan Abhiyan, Eat right India Movement, National Nutrition Education Programms- Methods- Training, importance, planning and Implementation.

Unit 3: Global Health and Nutrition

Impact of globalization on nutrition and health. Interconnections between global health issues and nutrition. Global burden of disease and nutritional deficiencies. Nutrition transition and its health implications. Food systems and food security in a global context. Impact of climate change on nutrition and health. Global health initiatives and nutrition programs. Role of international organizations in nutrition policy. Policy and Coordination during Emergencies: International organizations, guidelines and standards (e.g., Sphere standards, WHO, UNICEF), Role of government, NGOs, and, Global metrics, Sustainable development goals, Human Development index, One health, Circular Economy.

Unit 4: Nutrition During Emergencies and Resilience Building

Introduction to Nutrition in Emergencies: Definition and types of emergencies (natural disasters, conflict, pandemics), Impact of emergencies on food security and nutrition, Vulnerable populations and special nutritional needs. **Emergency Nutrition Program:** Therapeutic and supplementary feeding programs, Community-based management of acute malnutrition (CMAM), Infant and young child feeding (IYCF) in emergencies, Micronutrient interventions and fortification strategies. Coordination mechanisms and cluster approach in emergency nutrition response. **Resilience Building and Sustainable Recovery:** Definition and dimensions of resilience in the context of nutrition, Livelihood support and food security in post-emergency phases, Community-based approaches to resilience building, Integrating nutrition-sensitive interventions with emergency response, Case studies on successful resilience-building programs.

Unit 5: Research Methods and Grant Proposal Writing

Advanced research skills specific to public health and nutrition. Qualitative and quantitative research methods (Study design: cohort, case-control, and randomized controlled trials. Bias, confounding, and interaction). Systematic reviews and meta-analysis. Ethical considerations in nutrition research. Grant proposal writing process and techniques, components of research grants-Abstract, Hypothesis, specific aim, budget frame. Work plan and strategies for grant success. Identifying funding resources and opportunities.

Textbooks:

1. MacMahon, B., & Pugh, T. F. (1970). *Epidemiology: principles and methods*. [1st ed.] Boston, Little, Brown.
2. Bowling, Ann, Ebrahim, Shah. (2005). *Handbook of health research methods : investigation, measurement and analysis / edited by Ann Bowling and Shah Ebrahim*. New Delhi: Open University Press.
3. Lawrence, M., & Worsley, T. (Eds.). (2007). *Public Health Nutrition: From principles to practice* (1st ed.). Routledge.
4. Wang, G.T., & Park, J. (2016). *Health Research Methodology: A guide for training in research methods*.
5. Vir S.C., (2015), *Public Health Nutrition in Developing Countries* (Part I and II), Woodhead Publishing India Pvt, Ltd.

Reference Books:

- Park, K. (2020), Preventive and Social Medicine, 25th Edition, Bansaridas Bhanot Publishing House.
- eGyanKosh, National Digital Repository on Nutrition for the Community, Designed and Maintained by Indira Gandhi Open University, New Delhi.
- Bhatt D.P (2008), Health Education, Khel Sahitya Kendra, New Delhi
- Suryatapa Das, (2016), Textbook of Community Nutrition, Second Edition, Academic Publishers.
- Food and Agricultural Organisations of the United Nations, (2016), Nutrition Education Needs and Capacity Analysis Package, <http://www.fao.org/nutrition/education/professional-training/needsassessment>

Teaching Pedagogy:

- **Interactive Lectures:** Deep dives into each topic with active participation.
- **Seminars and Workshops:** Guest speakers, hands-on activities, and group discussions.
- **Research Projects:** Individual or group research projects with presentations.
- **Field Work:** Practical experience in community settings.
- **Evaluation:** Based on assignments, research projects, presentations, and participation.

Assignments/Activities:

- Critical review of epidemiological studies.
- Data analysis using advanced statistical software.
- Case studies on disease outbreak investigations.
- Designing a community nutrition intervention.
- Policy analysis papers.
- Case studies on successful nutrition programs.
- Comparative analysis of global nutrition policies.
- Research on the impact of climate change on food security.
- Participation in global health simulations.
- Developing a research proposal.
- Conducting a systematic review.
- Writing and peer-reviewing grant applications.

Evaluation Pattern:

Category	Marks
Continuous Assessment	20
Mid-Term	30
End Semester	50
Total	100