Semester: II

Core Course

8. Course Code & Title: MPC 52 04 & Chronic Disease Epidemiology

Credits: 2

Course objectives:

The objective of this course is to make students understand the major non-communicable diseases, their risk factors, strategies for prevention, risk factor surveillance as per the World Health Organization STEPS protocol, case studies on major interventions to reduce risk factors in India and a few other developing countries and the national program for prevention and control of Cancer, Cardiovascular diseases, Diabetes and Stroke in India.

Course outcomes:

On successful completion of this course, students will be able to:

1) Develop conceptual understanding of epidemiology of communicable and non-communicable diseases.
2) Identify etiology and risk factors and develop strategies to prevent and control non-communicable diseases.

Skills Developed:

On successful completion of the course the students shall develop skills in Non-communicable disease surveillance, non-communicable disease prevention and control.

Teaching methods: This course will be delivered using a variety of methods and modalities such as interactive classroom and online lectures, self-study, case studies, written assignment, class room exercises using computers, quiz, field visit, group work, field survey,

class room presentations in groups etc.

Units and Topics	Teaching Methods								Mandatory Readings
Unit-I: Non-Communicable Diseases									
	L	**FW**	**FV**	**CS**	**GW**	**SS**	**SP**	**P**	
Objectives of the course	**X**								
Epidemiological Transition	**X**					**X**			Omran., A, R. The epidemiologic transition: a theory of the epidemiology of population change. 1971. *Milbank Q*. 2005;83(4):731-757.
NCD Risk factor Surveillance	**X**					**X**			Riley, L., Guthold, R., Cowan, M., Savin, S., Bhatti, L., Armstrong, T., & Bonita, R. (2016). The World Health Organization STEP-WISE Approach to Noncommunicable Disease Risk-Factor Surveillance: Methods, Challenges, and Opportunities. *American Journal of Public Health*, *106*(1), 74–78. https://doi.org/10.2105/AJPH.2015.302962
NCD Risk factor Surveillance STEP 1	**X**					**X**		**X**	Sarma, P. S., Sadanandan, R., & Thulaseedharan , J. V. et al (2019). Prevalence of Risk Factors of Non-Communicable Diseases in Kerala, India: Results of a Cross-Sectional Study. *BMJ Open*, *9*(11), e027880. https://doi.org/10.1136/bmjopen-2018-027880

NCD Risk factor Surveillance STEP 2 and 3	**X**					**X**		**X**	
Risk factor Modification	**X**					**X**			Puska, P., Laatikainen, T., Korpelainen, V., & Vartiainen, E. (2016). Contribution of the North Karelia Project to International Work in CVD and NCD Prevention and Health Promotion. *Global Heart*, *11*(2), 243–246. https://doi.org/10.1016/j.gheart.2016.04.009
Strategies of Prevention.	**X**					**X**			Rose, G. (2001). Sick Individuals and sick populations. *International Journal of Epidemiology*, *30*(3), 427–432. https://doi.org/10.1093/ije/30.3.427
Risk factors of NCDs: Tobacco, overall	**X**					**X**			WHO Tobacco: fact sheet. Geneva: World Health Organization, 2018. https://www.who.int/en/news-room/fact-sheets/detail/tobacco
Risk factors of NCDs: Tobacco, FCTC	**X**					**X**			Mohan, S., Mini, G. K., & Thankappan, K. R. (2013). High Knowledge of Framework Convention on Tobacco Control Provisions Among Local Government Representatives Does Not Translate into Effective Implementation: Findings from Kerala, India. *Public Health*, *127*(2), 178. https://doi.org/10.1016/j.puhe.2012.11.018
Risk factors of NCDs: Physical inactivity & Public Health	**X**					**X**			Mathews, E., Pratt, M., Jissa, V. T., & Thankappan, K. R. (2015). Self-reported Physical Activity and Its Correlates Among Adult Women in the Expanded Part of Thiruvananthapuram City, India. *Indian Journal of Public Health*, *59*(2), 136–140. https://doi.org/10.4103/0019-557X.157535
Risk factors of NCDs: Physical inactivity, methodology for measurements	**X**					**X**			Mathews, E., Salvo, D., Sarma, P., Thankappan, K., & Pratt, M. (2016). Adapting and Validating the Global Physical Activity Questionnaire (GPAQ) for Trivandrum, India, 2013. *Preventing Chronic Diseases*, *13*, E53. https://doi.org/10.5888/pcd13.150528.
Risk factors of NCDs: Unhealthy Diet	**X**					**X**			GBD 2017 Diet Collaborators. (2019). Health Effects of Dietary Risks in 195 Countries, 1990-2017: A Systematic Analysis for the Global Burden of Disease

									Study 2017. *Lancet*, *393*(10184), 1958. https://doi.org/10.1016/S0140-6736(19)30041-8
Risk Factors of NCDs: Alcohol use	**X**					**X**			GBD 2016 Alcohol Collaborators. (2018). Alcohol Use and Burden for 195 Countries and Territories, 1990-2016: A Systematic Analysis for the Global Burden of Disease Study 2016. *Lancet*, *392*(10152), 1015. https://doi.org/10.1016/S0140-6736(18)31310-2
Case studies on interventions for NCD risk reduction 1. Quit Tobacco International	**X**					**X**			Yamini , T. R., Nichter, M., Nichter, M. et al. (2015). Developing a Fully Integrated Tobacco Curriculum in Medical Colleges in India. *BMC Medical Education*, *15*, 15. https://doi.org/10.1186/s12909-015-0369-3.
Case Study 2. Dietary intervention	**X**					**X**			Daivadanam, M., Wahlstrom, R., Ravindran , T. K. S., Sarma, P. S., Sivasankaran, S., & Thankappan, K. R. (2018). Changing Household Dietary Behaviours Through Community-Based Networks: A Pragmatic Cluster Randomized Controlled Trial in Rural Kerala, India. *PloS One*, *13*(8), e0201877. https://doi.org/10.1371/journal.pone.0201877
Case Study 3. Kerala Diabetes Prevention Program	**X**					**X**			Thankappan, K. R., Sathish, T., & Tapp, R. J. (2018). A Peer-Support Lifestyle Intervention for Preventing Type 2 Diabetes in India: A Cluster-Randomized Controlled Trial of the Kerala Diabetes Prevention Program. *PLOS Medicine*, *15*(6), e1002575. https://doi.org/10.1371/journal.pmed.1002575
Case study 4. Community Interventions for Health	**X**					**X**			Dyson, P. A., Anthony, D., Fenton, B. et al. (2015). Successful Up-Scaled Population Interventions to Reduce Risk Factors for Non-Communicable Disease in Adults: Results From the International Community Interventions for Health (CIH) Project in China, India and Mexico . *PloS One* , *10*(4), e0120941. https://doi.org/10.1371/journal.pone.0120941

National program for the prevention and control of Cancer, cardiovascular diseases, diabetes and stroke	**X**				**X**	**X**	**X**		Krishnan, A., Gupta, V., Ritvik, Nongkynrih, B., & Thakur, J. S. (2011). How to Effectively Monitor and Evaluate NCD Programmes in India . *Indian Journal of Community Medicine* , *36*, S57-62.