68.006
Cellular Automaton Model for Epidemiology with Vaccination Strategy
S. Rajasekaran
B.S. Abdur Rahman Crescent Engg. College, Department of Mathematics, Chennai, India

Vaccination plays a vital role in controlling infectious diseases. This paper presents the spatial and temporal rates of disease spread in a spatially distributed heterogeneous population with vaccination using lattice gas cellular automata (LGCA). This model describes the scenarios of ring vaccination, which is more effective if the infectious cases are diagnosed rapidly. Expressions for the basic reproduction number and effective reproduction number have been derived which help to find the critical vaccination coverage needed to control the epidemic. We investigate the effectiveness of ring vaccination depends on the time until diagnosis of a symptomatic case, the time to identify and vaccinate contacts. However, because of the inherent stochastic nature of the epidemic outbreaks, both the size and duration of the epidemic outbreaks highly vary. A special strategy that includes case isolation is discussed and sensitivity analysis is carried out to understand the initial phase of the epidemic. Specifically, how a ring of vaccinated susceptible population of sufficient thickness can halt the spread of infection across space is analyzed. This model can also incorporate geography, demography, and environment and migration pattern into the interaction measure between cells on a global neighborhood level. Hence LGCA model is more flexible to determine the effect of vaccination in epidemic spread through simulation using several simplified data.

doi:10.1016/j.ijid.2008.05.1265

68.007
Knowledge and Practice about Aids, Hepatitis B and C in Barbers
B. Ataei, A. Saidi, N. Kassaian, Z. Nokhodian, M. Jalali*
Infectious Diseases Research Center, Isfahan University of Medical Sciences, Isfahan, Iran (Islamic Republic of), Infectious Diseases Research Center, Isfahan University of Medical Sciences, Isfahan, Iran (Islamic Republic of)

Introduction: In Barber’s shop, care lessens of simple points of hygiene can lead to control of infectious diseases such as AIDS and viral hepatitis. As knowledge and practice have a critical role in prevention of these diseases, this study was carried on to assess them in barbers in Isfahan, Iran.

Methods: The level of Knowledge and Practice in 240 barbers who were chosen randomly from 1200 barber’s shop were evaluated in this study. Validated questionnaire including 20 questions about knowledge and 10 about practice were filled and the answers were analyzed using SPSS software.

Results: The average score of knowledge was 15.7 ± 3 with no statistically differences in the 3 diseases. There was no correlation between the knowledge score and area. The average score of practice was 16.6 ± 1.7. There was direct correlation between knowledge and practice scores with education levels and inversely correlation with age and experience. TV and radio were the most sources of barbers’ knowledge about the 3 diseases.

Conclusion: The role of TV and radio for control of AIDS, Hepatitis B and Hepatitis C seems to be important. Also, more educational programs specially for old aged and experienced groups must be done.

doi:10.1016/j.ijid.2008.05.1266

68.008
General Morbidity Profile of Rural and Periurban Population in Selected Localities of Patna District: Household Survey
G. Kumari1,*, R.A.M. Singh2, V.K. Saxena3
1Centre for epidemiology and parasitic disease, NICD, Delhi-110054, Delhi, India
2National Institute of communicable Diseases, Patna, India
3Centre for Medical Entomology and Vector Management, NICD, Delhi-110054, Delhi, India

Background: Research question: What is difference in prevalence of morbidity and its association with education, occupation, income (EOI) & age of individuals in rural & periurban area? The baseline data of disease burden and its pattern for acute and chronic diseases is a prerequisite for any health planning and optimum use of resources. Health seeking behavior of a population is equally important element in the process. This becomes more important in case of rural & peri-urban populations, as there is a significant mismatch between resources and disease burden. Despite the achievements of better health in India, there is a large gap between the health of urban and rural community. Bearing in mind the inadequacy of epidemiological data on general morbidity pattern, the aim of this study was to estimate prevalence of morbidity in rural and periurban communities.

Objectives:
1. To estimate self-reported morbidity pattern among households and treatment seeking preferences of rural & periurban communities of Patna, Bihar.
2. To analyze association between EOI and age of individuals with the prevalence of morbidity.

Methods: Design: Analytical Cross-sectional study. Study population: All the members of each household. Study tool: Structured interview schedule filling up of information about individual’s demographic profile and morbidity. Survey method: Alternate households were interviewed. Data consisted of 237 households, 1347 individuals

Results: 49.8% & 14.3% subjects were illiterate and 21.8% & 4.02% were unskilled workers in rural and periurban areas respectively. Acute morbidity was higher in rural (10.79%) than in periurban (7.74%). Chronic morbidity was higher in periurban (16.84%) than in rural (10.35%).

Conclusion: Prevalence of morbidity was higher in periurban community than in rural and more prevalent in females than males. Morbidity was associated with the age of an individual and not with EOI of the family head. Most households...
Introduction: Tooth decay is one of the airmant of catching cold among students. Controlling this problem is one of the duties of Health and Safety Administrators. DMF index is a very important index both regional and nationally. This index should not exceed than at 3 age at twelve. In this study the DMF index is being investigated particularly in tooth number six.

Methods: In this study 2000 first and first and second grade elementary students were piched randomly according to cluster random sampling. Their teeth, beginning of tooth decay and DMF index of tooth number 6 were investigated.

Results: Among all these students only 19% didn’t have tooth decay. 40.9% of them have decay for tooth number 6. DMF index for number six tooth among these students were 0.87. 47.2% of them have between one to four decayed tooth. Based on place living (Rural or City), sex, occupation of father, no meaningful differences were found in DMF and tooth decay.

Discussion: Epidemy of teeth decay and DMF index of tooth number 6 is an indication of the lack of knowledge and attention among parents at these students. Even though the dentists and health workers have been active for decades the problem still exists because it is mostly based on cultural backwardness and there is no differences between rural and city students. Most parents don’t know that teeth number 6 is a permanent teeth. We believe that a grate educational program is needed to teach both parents and their children. This education should be administrated by employees of Ministry of Health, particularly health instructors, the mass media also could play a major role in this education.

Conclusion: This study showed that parents often have inadequate knowledge regarding antibiotic use. Providing antibiotic awareness was found to significantly improve parents’ behavior. Therefore, improved public and parental education is needed to reduce unnecessary antibiotic prescription and antimicrobial resistance in the community.