**UNIVERSITY OF NAIROBI**

**SCHOOL OF MEDICINE**

**DEPARTMENT OF COMMUNITY HEALTH**

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**MIGRATION**

**Causes and Consequences**

**Push factors**

* The urge to break away from traditional norms and seek new adventure
* The decision making is most times gender biased because only men make the decisions mostly

**Physical Factors**

* Climate
* Insecurity

**Demographic Factors**

* Population density
* Rite of passage e.g. morans migrate in order to prove they are independent and can live on their own
* Poverty
* Land related; in search of land to settle
* Marriage and breakdown in marriage
* End of a stage in life e.g. end of schooling where one now migrates to the job market

**Social – Cultural factors**

* Breaking away from social constraints like extended family systems

**Other factors**

* Education; moving to far places in search of education
* Health related factors e.g. moving away from malaria prevalence areas

**Pull factors**

* People being drawn towards the job market to improve their status in life
* Economic motive; being pulled towards investment sites
* Modernization; opening up of roads, industries, schools, health facilities information technology and other infrastructure draws people mostly from rural to urban
* Landlessness; in Kenya, people are drawn towards regions with more land, fertile land or habitable land

**Consequences**

* Overpopulation in the area of destination especially in informal settlement in urban areas leading to around 80,000 people per square kilometer hence congestions
* Housing is compromised
* Sanitation is poor
* Poor sewage systems
* Increase in crime; homicide etc
* Prevalence of infectious diseases
* Youth unemployment
* Increased maternal mortality rates especially due to induced abortions (Kenya, 700 per 100,000 births)
* The same features are noted even from rural to rural migration
* Children under five are the most susceptible especially to diseases

**Everet Model of Migration**

* People from area of origin move to area of destination if their current area of origin has negative factors e.g. poor climate, disease prevalence etc but must pass via intervening obstacles
* The obstacles include distance, finance, climate, migration loads e.g. furniture movement etc
* Before migration to the new destination, the things which matter include;
* Schools for the children in the new destination
* Availability of jobs in the new population
* Difference in climate from origin to destination; is it better or worse?
* What distance has to be covered? The longer the distance the fewer the migrants
* Availability of social amenities in the new destination e.g. health services, transport, communication etc
* The volume of migration in a country varies with the degree of diversity of areas in a country e.g. road network, communication network etc e.g. in USA and Australia, the diversity is highly specialized
* The volume of migration is related to the difficulty of surmounting the intervening obstacles e.g. acquisition of visas, passports etc
* Volume of migration varies with the fluctuation of the economy. When the economy is low, migration is outwards and when the economy improves and goes up, the migration is inwards.
* The volume of migration as well as trends increase with time. If you have migrated once, the bonds are broken hence one can move for the 2nd time and 3rd time with ease as compared to moving for the 1st time
* Migration varies with the status of industrialization in a country. Good industrialization results in inward migration while poor industrialization results to outward migration

**Policy Implications**

* The urban areas in Kenya are growing at an average of 5% p.a which is almost double the rate of the whole country
* Imbalances have to be reduced between urban and rural employment opportunities such that employment is created everywhere hence no need to move
* Decentralization of resources to ensure the peripheral zones of a country are also involved in decision making and reception of amenities
* Urban job creation is an insufficient solution for urban unemployment; if you continue creating jobs in urban areas, then the problems of unemployment will never cease. In 1970s, the government started a program where all ministries including the private sector were told to increase employment by 15%. Those who were in the rural areas all came to the urban areas and left their farming business. It was called the Tripartite Agreement and it failed miserably
* Indiscriminate expansion (expansion without planning) of education will fuel further migration; harambee schools for example on the rise will cause migration and at the end it is not about quality but quantity
* Programs of integrated rural development should be encouraged focusing on agricultural development to restore a proper balance between urban and rural sectors e.g. District Focus for Rural Development was an initiative that was started in response to the same but there were problems here and there and never took off successfully. However, Malawians took up the idea and it took off successfully
* Incentives; programs of giving incentives to induce migration from densely populated areas to less populated areas but this is not easy to do

**METHODS OF REGULATING FERTILITY**

* Birth Control/Family planning; Knowing origin, development and impact on fertility
* Since 1957, there have been methods of family planning in Kenya through the facilities of the Ministry of Health and the private sector
* The average of this was only in urban areas
* The family planning association of Kenya started with some clinics in Nairobi to regulate fertility
* By 1967, Kenya became the 1st country, south of Sahara to adopt an official family planning association based on the evidence used in the 1962 census where the country was growing at 3% p.a. beyond resources
* In 1965, African socialism and its impact began; looked at impact of population and development. The conclusion was that a high population growth was not good for development because most of the funds were being used to maintain this population hence the need of a system to regulate fertility to maintain high levels of development
* In 1962 census, the Kenyan population was around 8 million as compared to 1999 census of 34.9million
* The family planning program met a hostile environment especially the parliament which was not ready for family planning and the idea was rejected. There was hence little or zero change in terms of family planning for 10 years. The ministries of health did not take any major part in family planning regulation. The leadership of the country and religious groups especially the Catholic church played little role in the campaign for family planning. The only ministry that played an active role was the finance ministry
* By 1977, 1978, Kenya was reputed of having one of the highest growth rate of around 4.1% p.a. after doing the Kenya Fertility Survey
* The use of family planning was only about 7% among the elderly after reaching the desired family size of 7 or 8 children.
* The objectives were not clear that they did not mention the idea was to reduce the crude birth rate, it was written in an ambiguous way as a ‘method of helping mothers and children in terms of their health’ and this left out the message of reducing the crude birth rate which was too harsh at that time
* Contraceptive use among married women of child bearing increased from 7% to 17% in 1984 then to 39% in 1998.
* Research has shown that contraceptive use is the major determinant of controlling fertility. The rate reduced from 8.1 children per woman to 4.7 children per woman
* In 1998 – 2003, contraceptive prevalent rate stalled hence there was no change in total fertility rate
* 2008 – 2009, the result was 46% of currently married women use contraceptives out of this percentage, 6% use traditional methods like periodic abstinence, coitus interuptus, rhythm method etc. Modern methods include pills, condoms, barrier methods, intramuscular injections, implants etc
* The total fertility rate changed to 4.6 children per woman from 4.9 children per woman
* There is a high difference in contraceptive use between the provinces with the lowest being recorded in North Eastern Province

**STUDY/RESEARCH DESIGNS**

**Objectives**

At the end of the topic we shall be able to;

* Define different studies
* Recognize different types of studies (literature)
* Differentiate different studies
* Design different studies
* Plan, conduct different studies
* Analyze data obtained from studies i.e. biostatistics
* List strengths and limitations of different studies

**Study Designs/Methodology**

* Refers to the methodology used to investigate a particular disease or health;
* Exposure
* Disease/outcome
* Exposure – outcome relationship
* Need to define;
* Population from which groups of subjects are studied
* Outcome that is measured

**Classifications of Study Designs**

* Non analytic
* Analytic
* Observational
* Non observational

**Non – analytic**

* These are descriptive studies
* There is no comparison group, you only study one group
* Does not quantify the relationship
* Tries to give a picture of what is happening in a population;
* Prevalence
* Incidence
* Experience of the group

For example surveys: They measure the frequency of several factors and hence size of the problem

**Analytic Studies**

* There are atleast two groups for comparison
* Attempts to quantify the relationship between two factors
* Exposure thus leads to outcome e.g. smoking (exposure) will lead to lung cancer (outcome) hence the occurrence of lung cancer is compared to smoking
* Intervention also leads to outcome
* To quantify the effect, one needs to know the rates of outcome in the comparison groups
* These studies can be observational or experimental

**Observational**

* The researcher does not manipulate exposure but just observes the events as they occur
* Under observational studies, they can either be;
* Descriptive studies
* Analytic studies categorized again into;
* Cohort studies
* Case control studies

**Experimental studies**

* Are also called intervention studies
* Include examples like medication to diseases

**Dimensions of Epidemiology**

**Descriptive epidemiology**

* This is the study of the amount and distribution of health problems (or exposure to risk factors) within the population

**Factors used to describe occurrences**

* What is the occurrence?
* Who is in the occurrence or who is being affected?
* Where is the occurrence taking place?
* When did the occurrence take place?

**Features**

* Only one group is studied
* There is no comparison group
* Usually conducted when little is known about the health problem
* Occurrence
* Natural history
* Determinants
* Gives clues on possible relationships between suspected causes and occurrence of disease (or health related problem)

**Objectives**

* To estimate the magnitude of the disease in a particular population;
* At point in time
* Over period of time
* To determine the characteristics of persons with particular;
* Disease (or health problems)
* Exposure
* To generate specific etiologic (i.e. causal) hypotheses
* To describe the patterns of diseases or any other health related problems in the population

       Distribution

Person Place Time

The Person – Place – Time – Model

* These characteristics give clues that may explain differing exposure to the etiologic (causative) agent of the disease
* Permit hypotheses to be generated

**Person – Who?**

* Refers to the characteristics of individuals that may influence their exposure to and/or susceptibility to the disease in question
* Can be described in terms of their;
* Genetic and acquired characteristics
* Their activities

**Examples**

* Age
* Occupation
* Marital status
* Sex
* Race
* Habits and behavior
* Social class etc

Characteristics of persons may determine their risk of exposure to a particular disease or health related problem

Time

Rate of Disease

Age

Rate of Disease

**Place – Where?**

* When does the problem occur?
* Where is the occurrence taking place
* Compare rural and urban occurrence

**Time – When?**

* Refers to when the disease occurs
* There might be changes in the trend over a long period of time i.e. secular
* Changes could also be seasonal over the year etc

**Example;**

* Malaria; may vary with the time of the year (rainy or dry season)

**Uses of Descriptive Data/Studies**

* To evaluate trends in the occurrence of health outcomes or exposures to risk factors;
* Within a given population
* Among subgroups within a country/community
* In comparing one country to others
* To provide basis for the planning, provision and evaluation of health services for a given population or community
* To obtain clues about the etiology of a given health problem that suggests either;
* Further study through the use of analytic methods
* The testing of health interventions
* To describe the disease in terms of its characteristics
* Diagnosis and staging of the disease
* Features
* Natural history of the disease

**Advantages**

* Simple to design and implement
* Inexpensive (compared to analytic studies)
* Takes less time to complete

**Disadvantages**

* Conclusion cannot be made on the cause-effective relationship but can only suggest relationships
* Are not suitable for acute diseases/conditions

**Analytic Studies**

* Are designed to;
* Identify risk factors for health problems or outcome or
* Test hypotheses generated from descriptive studies

Risk factors or exposure Vs Exposure/Outcome Variable

**Feature**

* There are atleast two groups;
* Study group
* Comparison/control group

**Types**

* Cohort studies
* Case control studies

**Cohort Study Designs**

* Subjects are selected on the basis of some characteristics (or exposure)
* Exposed group; study group
* Unexposed group; control
* Cohort studies ask the question, ‘what will happen?’
* The rate of developing disease or outcome of interest among exposed individuals is compared with that of unexposed individuals
* Types;
* Prospective cohort studies
* Present to the future
* Retrospective (or historical) cohort studies
* Past to the present

**The principle of cohort studies**

Diseased

Not diseased

Do not have characteristic (unexposed)

Have characteristic (Exposed)

* The ratio is called relative risk or rate ratio



**Interpretation**

If RR = 1 then there is no association

If it is greater than 1 then there is positive association; every increase of exposure increases the rate of disease

If it is lesser than 1, there is negative association hence strengths depends on RR

**Example**

* A prospective cohort study is conducted to determine if exposure to asbestos is associated to development of lung cancer
* A total of 130 subjects exposed to asbestos and 70 non-exposed subjects are enrolled into the study
* All subjects are without cancer
* All subjects are then followed up for a period of 20 years
* At the end of the follow-up period their disease status is determined