

A Study of Geographer's Contribution of Diseases for Human Health

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Abstract:

In this study the authors discuss the emerging trends in geography of health and health care system in detail and analyses the position of geography of Health in India and abroad. The Modern Geography, as a science, is concerned with the rational development and testing of theories explaining the spatial diffusion of phenomena's, spatial location and allocation models, spatio – temporal patterns and process of various characters of the earth and socio – spatial behavior and perception of people in Geographical space. Within the scope of Geography of Human well-being and the essential spatial welfare analysis, the physical attributes namely health of man – kind has been gaining increasing importance since 17th century. The Geographical study of Health System began during this time.

Keywords: Geographer's Contribution, Diseases, Human Health, welfare

Introduction

The pursuit of physical and mental attributes and attitudes of man, namely medical analysis, began as early as 17th century, under the banner of Medical Geography. In this area of specialization the credit of carrying out a pioneering work is conferred to Prof. A. T. A. Learmonth, though the foundation stones were laid by Prof. L. D. Stamp in his essay on "Geography of Life and Death". During the early phases of 17th Century geographers mainly concentrated on the adverse influence of climatic and other natural elements on human health. In the early 18th the pursuit of physical and mental attributes and attitudes of man, namely medical analysis, began as early as 17th century, under the banner of Medical Geography. Some of the Locational Theories, Models and Laws propounded by urban, social geographers were applied to test the locational Hierarchy and people's perception and ideas specially pertaining to distance factor, and particular services like family planning techniques, public health care units, some of the renowned works in this area are from Shan and Bashu, Menter (1999), Girt, Weiss and Geenlick, Noble, Lanontangue, Belloc and Wechsler (1991), Hodgart, Knox, Shonick (1998), Robert Krishnan, Kumaran (1993). With the introduction of the WHO's concept of "Health For All by 2000 A.D." and a search for "An alternative System of Health Care", the geographers have extended their study towards Medical Pluralism and have made successful attempts to assess and analyze the Sociospatial

behavior and attitudes of providers and users of different systems of medicine and also the projects on “Comprehensive development through Health Care”. In the entire course of progress of development of theme of medical geography, the techniques of cartography, quantitative analysis with the most advanced computer programmes have had equal research appreciation.

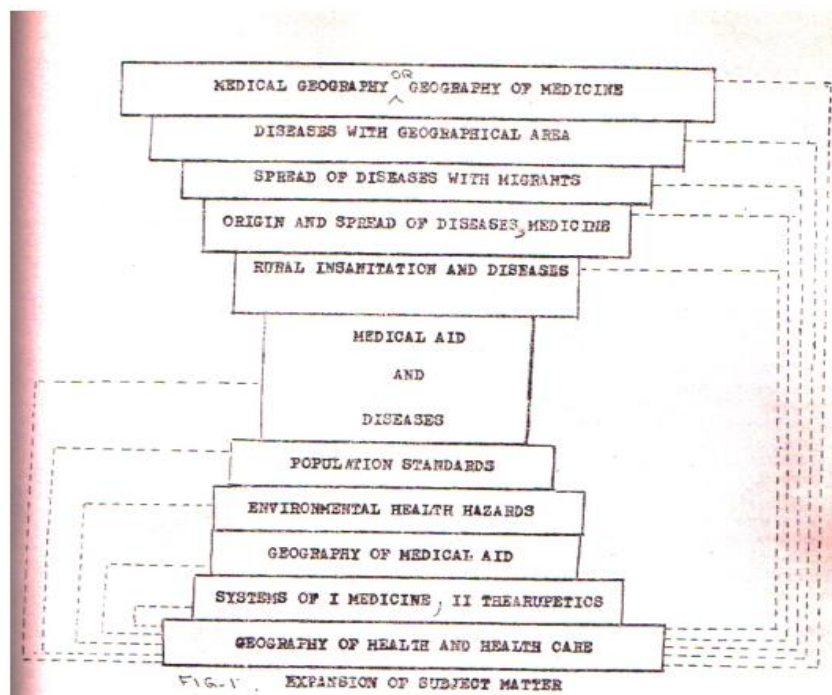
Perspectives and concept of Geography of Health and Health Care:

The commission on “International Geographical Union” defined Medical Geography in the year 1952 as “the study of Geographical factors concerned with the cause and effect of health and diseases” Realizing the narrowness of such a definition, in 1996, the IGU (International Geographical Union) in Moscow, abolished the 24 years of old term of Medical Geography and adopted a much broader perspective of Geography of Health and Health Care. In which case, unlike the earlier works, the focus was not just on assessment of distribution of pattern of disease occurrence and spread, and medical services, but on analysis of causes and consequences of such a kind of distribution and the associated socio – spatial attributes through analysis of locational efficiency, socio – spatial perception and behaviour of providers and users of health care services.

Approaches and Techniques:

Geographers adopt five main approaches and techniques to test the pattern of occurrence, spread and distribution of diseases and location of health care services in a region. The most commonly applied approaches and techniques are:

- (1) Medical Cartography,
- (2) Ecological Associate Approach,
- (3) Diffusion studies (Robert),
- (4) Locational Analysis (Robert) and
- (5) Spatio – Temporal, Social and Behavioural Studies.



1. Medical Cartography:

In the early stages, the studies in Medical Geography, both by Geographers and Medical personals began with the task of map making. During the period of 1800s maps were used as an important tool of analysis. The cartographic technique for expression of analysis still holds good and especially so with improved quantitative technique of computer analysis. The maps is most general cases clearly identifies both Homogenous and Heterogenes areas, and it also points out those areas of the world where plans and programmes liken to Health Sector are in urgent need. The works of Aiken, Mcclelland, and Hopps have established the importance of this technique to Health Studies. Hopps in his work of 1999 has stressed on the significance of computerized mapping in Geographical studies on Health.

2. Ecological Approach:

Two main branches of study developed under this approach namely disease ecology and disease geogenes. The Ecological Associative studies concentrated on spatial context of Epidemiological studies, the influences of topographic, climatic, biotic and socio-economic cycles and their influences on health of people, environmental repercussion and associated health hazards, Adams 1899, Hesterlow, Scomer, Man, Sergent, Fonarff and Justaz (1900 to 1993), Ashley and Dixit (1993).

3. Diffusion Studies:

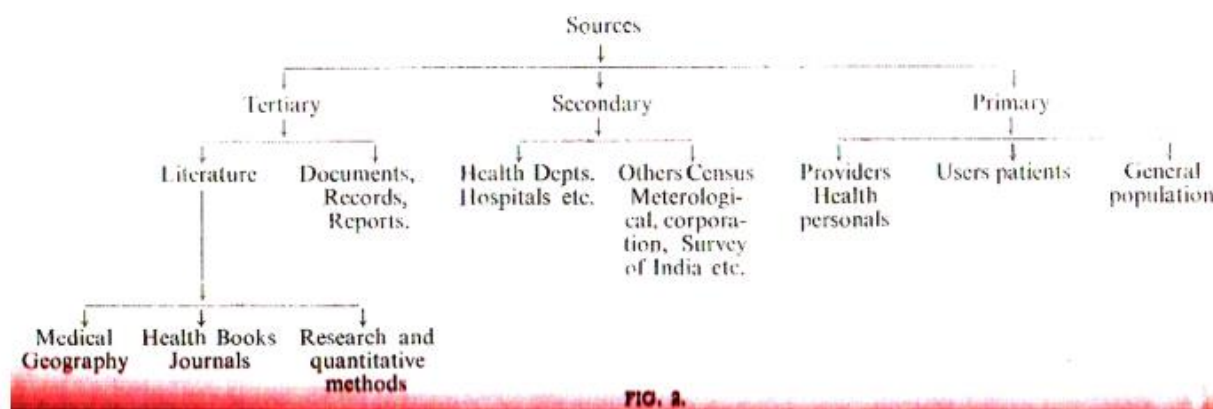
This approach was mostly adopted in the earlier centuries to study the occurrence and spread of disease contagion in the environment with migrants, especially during (colonialism and in the later phases to assess) the diffusion and adoption of Health care innovations in the Geographical space, especially pertaining to Family Planning programmes.

4. Locational Analysis:

Contemporary research works have stressed on the locational theories and models to evaluate the locational theories and models to evaluate the locational theories and distribution of Health care services in a region. The locational models of gravity are all applied to study the location of Hospitals, mobile services, public health units.

5. Spatio-Temporal Social and Behavioural Approach

This is the most recently applied approach to assess the perception, attitudes and attributes of both users and non-users of health-care services of a region. Almost all Geographers working on Medical pluration and Location – Allocation Model of Health care services, like, Hyma, Ramesh, Bhardwaj, Daksha, Kumaran (1981 – 85) Suchirita (1981) and others have applied this approach for study.



Sources and Methods of Data Collection in Geographical Research on Health System Analysis:

The methods by which and the sources from where the data is collected varies depending on the objectives of the study and in turn on the variables selected for verification of occurrences in the Geographical space. But in all cases the collected information on various aspect from all possible sources is oriented towards geographical location. Sources of Data: As in all fields of scientific research the information is procured from three main sources.

Variables and Sources selected for procuring of information:

As mentioned before the sources of information especially secondary, depends on the variables and in turn on the objective with which the study is conducted. To cite few examples – For a research on spatial distribution of mortality by cause, for any required region the records on death from the Health Department of Corporation in case of urban areas, the taluk, panchyat or block offices for rural areas; is taken into consideration. Besides all other variables, the place of death, the residential addresses of the diseased and the cause of death are more important, for geographical analysis. In addition to these other demographic, social and economic details as available and required can be recorded. In a similar way to spatially analyze the distribution of Health services and identify sufficiency and deficiency regions information on variables like Health services centre – Medical Equipments, amenities, bed strength; laboratories, chemists and pharmaceuticals and medical personnel's can be collected with their locational address, of work. The same can be correlated with Demographic, Socio – Economic and Health status of the people in a region through quantitative technique and plotted on the map in the respective divisions. Most conveniently administrative blocks and further super imposed on demographic, socio – economic and health status maps. For locational analysis or Health service centre, the perception, attitudes, attributes and behavior of both the providers – namely doctors and users – patients and general population, about the location – namely distances – in terms of geographic, social, economic and the pros and cons of such a location is assessed through questionnaire survey in concerned areas.

Reliability of Health Data:

The main task of Geographical Research pertaining to Health or to any related aspect is the gathering of relevant and necessary information, qualitative, quantitative and cartographic exposition on spatial form. It is without doubt that geographers face enormous problems, as

the data on required ground is not available. Hence geographers are left with the task of manipulating the available data on regional level.

Problems of using Computers for mapping of Health Data:

Though the geographers of health system have also made an attempted of introducing have also made a attempt of introducing the advanced technique of computer analysis for mapping of health data, due to the non-availability of authentic and required data bank on health in proper; various problems are met with.

Emerging Trends in Geography of Health and Health Care:

Contemporary geographers also engaged in the task of findings out and applying new techniques and approaches for spatial analysis of Health services and also for spatial pattern of consumer distribution by findings solutions to questions like – who gets what, where and when.

1. Recent trends in the Approaches to Geography of Health and Health care:

The modern geographers of health studies apply approaches such as

- (i) Spatial Diffusion,
- (ii) Spatial location and allocation of health service centres,
- (iii) Spatio – temporal pattern and process of diseases and health care services and
- (iv) Socio – spatial behavioural approach to assess the attitudes and attributes of people towards Modern Health System and Traditional Medicine.

2. Advanced Technique to assess the health system in the Geographical Study of Health Science:

To assess the health data, numerous statistical techniques like multi – correlation, factorial analysis, nearest neighbours technique, linear programmes on computers have been applied by the Geographers. Along with quantitative and cartographic techniques locational models like gravity model explaining distances decay analogy, Rank – size rule to assess the hierarchical distribution of health service centres, are applied to test the location and allocation of health care services in relation to the need factor. With the rapid progress of technique and approach for the study of health system, Geographers as Regional Planners have a great role to play in the science of health studies. This is especially so with the introduction of WHO's inter disciplinary research for Integrated health care delivery system to attain the goal of health for All by the year 2000 A.D.

3. Position of Geography of Health in India and Abroad:

Though the geographical studies on health began as early as 17th century in the world, in India it dates back only to the latter half of nineteenth century. Most of the techniques and approaches that are applied by Indian Geographers are similar to the ones applied by their counterparts in Western World.

Conclusion

Through this study there is an increasing interest among Indian Geographers to study the health system, due to the absence and non-reliability of date back especially pertaining to vital statistics, environmental data / and other health data at micro level. The works of

geographers is highly limited to a micro – level only. With the introduction of reliable data bank, it will open – up with a wide spectrum of study and deal with down to earth problems; but till then it is a rich potential mine to explore and process for the welfare of man – kind.

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