Details of Module and its Structure

Module Detail	
Subject Name	Sociology
Paper Name	Sociology of Health
Module Name/Title	Health Policies and Specific Disease Programmes in India: Malaria
Pre-requisites	Public Health System
Objectives	To analyze the health policies and program of Malaria in India
Keywords	Malaria, public health care, program, policy, anti-malaria, prevention and control

Structure of Module / Syllabus of a module (Define Topic / Sub-topic of module)	
Health Policies and Specific Disease Programmes in India: Malaria	Introduction; Malaria and India; Malaria control and anti-malaria measures; Community participation and awareness in Malaria control; Issues and problems of anti-malaria program and measures; Conclusion

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12. Health Policies and Specific Disease Programmes in India: Malaria

Introduction

Epidemics and diseases are one of the world largest problems which largely affected most third world countries. Some may be an outbreak of virus due to unhealthy contact of animals and some due to environmental surroundings. World Health Organization's World Malaria Report 2013 shows that as many as 207 million cases were registered as Malaria caused infection wherein 627,000 people were death due to the disease. Malaria has been a nuisance to world health control program for many years. World Health Organization has determined to check on the tools and remedies against Malaria which led to form a number of policies and programs in attempt to cure and prevent human population from such disease called malaria. The morbidity and mortality rate affected due to malaria is often determined by the socio-development, resources and geographical location than biological cause. Two-third of malaria cases are found more in the developing and poor countries (Guerin et al., 2002). Stratton et al., (2008) examine if research should be done on prevention and treatment or from the ground vulnerabilities. It is argued that focusing on the fundamental and socio is the exposure of diseases, yet to consider if poverty obstruct the research and study, then poverty has to be considered first than the fundamental cause of malaria.

This module will try to see the historical narratives dynamic of malaria causes like land pattern, environment, poverty and social development. The module will also examine Malaria control and policies focusing on the context of India. Some policies may have withered and failed while some keep up with beneficiary to the victims. Therefore, we will try to see the disease Malaria and challenges it brings along with. Consequently, we shall look into the role of the government and public health sector in the control and eradication of Malaria. First, we shall try to see on the situation and problems of Malaria in India, thereafter we will try to discuss on the policies and programs, its merits and defects in the health industry and social dimension.

Malaria and India

Malaria is well-known as a disease transmitted by mosquito biting. The disease carrier is a female mosquito called Anopheles. According to scientific study, Malaria is caused by parasites which are micro-organism of the genus Plasmodium (Raina: 1991). These parasites affected many creatures like animals, birds and humans. Medical science has stated that there are four parasite species that have affected human. One is P. falciparum. This species is largely common worldwide. It is said to have infected at least one million of the world population. Simply known as Malaria P.f, the parasite cause harmful effect on cerebral which could be severe as the parasite clog the blood vessel leading to blood loss. P. vivax is another common malaria parasite which is said to be found in Africa, some part of South America and Asia. Malaria P. vivax is common during the seasonal month of March-July (Raina:1991). Malaria P.v sometimes affected the gastrointestinal, gives joint pains and vomiting sensation. Like P.f it may also cause cerebral fatal. And thirdly, P. ovale is a parasite that is found distinctively in Africa but not in Asia or Latin America. The parasite may cause mild fever. Lastly, the fourth parasite is known as P. malariae, which is a quartan malaria. This kind of parasite infection if not treated well will lead to chronic infection.

The earlier symptom of Malaria is fever and mosquito. Malaria is said to be commonly found among in tropical and sub-tropical areas and also in developing countries due to unhygienic standard of livelihood and ill-health education. It is said to believe that in India, Malaria is not a modern disease but was found way back in 1500 BC. A record of seasonal fever and occurrence due to climatic change is said to be recorded in the Atharva Veda. Even in the medical history, Malaria is said to be known during the Hippocrates somewhere in the 500 BC.

Malaria is considered to be the worst epidemic that has taken many lives, worse than smallpox and cholera in terms of mortality rate. Malaria has been a nuisance disease that has affected India for many decades. Haldane (1951) stated that Malaria has made a history where he did not accept the British as superior to Indian, but British without malaria of course will make them powerful. Samanta (2001) argues that malaria during the colonial was due to the depopulation of fauna and flora, and fish population. Mosquitos tends to increase with the less population of flora and fauna, and the depopulation of fish brought affected the economic development of the Bengal province. It can be argued how the depopulation of flora and fauna affected crop cultivation and

increase in malaria fever, which affected both the social administration and economic development. The deterioration and deforestation are believed to have linked with malaria causes. With agricultural shift, man adopted in damaging river banks, irrigational drainage are introduced, soil is wasted. The changes in ecosystem led to increases of mosquito population. The whole question of malaria causes can be said as related to the environment improvement or impoverishment.

During the colonial India, malaria has been conceptualized within the context of environmental change in relation to economic, diseases and ecosystem. Epidemic diseases in India like cholera, smallpox, diarrhea and even malaria were seen to be the outcome of polluted, filthy and unhealthy environment by the British colonial. Scientifically or even from the very basic knowledge of traditional medicine, environmental influence can be understood to have contributed a great deal in attaining a healthy body or body with disease. Mukherjee (2008) cited the work of Walter Raleigh's History of the World where the tropical area of the earth is considered to be fearful with dangerous thunders and lightings and dreadful diseases and venomous beast and worms are everywhere. The attitude of the British colonial towards Indian tropical area, geographical land pattern with unplanned town and housing was not undeniable. Bengal especially was the region during colonial period where almost all epidemic diseases have been cursed upon with cholera, malaria, Burdwan fever and smallpox. The western medicine which came along with the rule of the British studied and observed the climatic change, vegetation and monsoon rain of India relating with environment caused diseases. Twining (1832) wrote that irregular or intermittent fever in Bengal was due to the climatic changes. The changes of season, the commencement of cold weather after a hot and human climate causes intermittent fever, especially during the cold season of November-December. Malaria fever takes its reign during the month of September, when autumn season started with climatic temperature subsiding towards cold winter. The observation or studying of the relation of disease and environment indisputably is true in the context of Bengal during the colonial India. Mukherjee (2008) mentioned that all the necessary essential for malaria causative agents were there in Bengal-jungles, lakes, marshes, over-crowded garden, stagnant water wells and pits, dirty pools and others.

It is recorded that in 1935, 100 million cases of malaria with nearly one million death occurred. When India got independence in 1947, 75 million people is said to have been affected by malaria out of 330 million populations and the mortality was 0.8 million per year (Voluntary Health Association of India: 1997). Malaria season in India differ from state to state with the climatic change. High temperature after rainfall and wet land makes malarial fever a great opportunity to spread. For instance, during the month of March to June and September to November after monsoon rain in Assam and Brahmaputra valley and North eastern region is affected by malaria fever, Central India during March to November, South India depending on the terrains. (Raina: 1991). Kumar (1998) refers to the British colonial time when malaria was said to be associated with rain, heat and wind which spare no area with its disease. During the eighteenth century many theories were experimented- chill theory, germ theory, drinking water theory, subsoil moisture theory and most popular one was the vegetable decomposition which was most convincing with the case of Bengal province.

Even after the British colonial, continual malaria control and prevention is a major focus of the government of India on public health administration. In attempt to control malaria, India has launched a program and different strategies to check on the challenges and issues related with malaria. In 1953 the National Malaria Control Programme (NMCP) was launched by the government of India hoping to evaluate malaria causes and eradication program. And in 1958 the National Malaria Eradication Programme (NMEP) was founded. With the launched of these programs, the incidence of malaria seems to drop a little.

Malaria control and anti-malaria measures

The Health Survey and Development Committee which was launched by the government of India in 1943 make recommendation on the control and prevention of malaria. Among them are the establishment of malaria control organization, training staff and medical worker, supply of drugs and other requirements, production of quinine and mepacrine, distribution of anti-malaria drugs at low cost and strengthening the medical experts (Raina: 1991). The government of India took immediate action in planning and framing anti-malaria measures and policy by drafting adequate objectives. However, National Malaria Control Program (NMCP) was short lived due

to various financial, administrative and technical problems. During the launch of National Malaria Eradication Program (NMEP) focus was put only towards rural India. NMEP was later change into National Anti-Malaria Program (NAMP) as the aim is shifted from eradication to control. The cases of malaria in urban has contributed many nuisance towards health, economic and lifestyle of the people. In the 1977 Modified Plan of Operation (MPO) was introduced with new concept and decentralizing laboratory work from district to block level. MPO was designed for both rural and urban India and under its plan; anti-larval and anti-parasite measures are to be covered. There is Urban Malaria Scheme (UMS) which was approved to cover malaria control in town area. UMS is said to have protect 115.1 million populations from mosquito borne disease. The NAMP Directorate is later renamed as Directorate of National Vector Borne Disease Control Program (NVBDCP) in 2003. NVBDCP is presently one of the most prominent health care systems and is an integral part of National Rural Health Mission too. NVBDCP main activities are to evaluate and monitor, guiding technical work, logistic and planning policies, training and research and controlling activity in the border or inter-state level. There are 19 regional offices of NVBDCP and these 19 states are responsible in controlling malaria under the Health and Family Welfare Department. In every state where there is NVBDCP, it sees to the necessity and requirement of spray equipment and other anti-malarial needs, while the central government provide them DDT and larvacides . At present, Urban Malaria Scheme is protecting 115.1 million populations from malaria as well as from other mosquito borne diseases in 131 towns in 19 States and Union Territory. Malaria Control and Research Project (MCRP) was established in Surat, Gujarat. This project aims to control and study effective remedies against malaria and contributing it into National malaria control program. The goal for the Strategic Plan 2007-2012 aims to reduce the mortality rate of malaria at least by 50% as per the National Health Plan Policy 2002. It aim to set a goal where at least 80% of people suffering from malaria gets proper treatment and medicine by 2012 and at least 80% of malaria risk area receive anti-malaria measures like IRS, INT and anti-larva.

Continuous research on the species of mosquitos has been conducted under Vector borne diseases program. Due to variant land pattern and climatic region, the measures of anti-malaria differ with region to region depending on the success and efficiency of the anti-malaria measures. The anti-larval measures proposed linked with the environmental condition, housing construction, and pipeline for water sewage and many more. Anti-larva is recommended to be

used in epidemic prone region-Haryana, Rajasthan, western Uttar Pradesh and Punjab. Anti-larva measure is categorized into source reduction, biological and chemical. Source reduction mainly aims to reduce the source of breeding of the larva eggs. This mostly is concentrated on spots like drainage system and water filling like canal, irrigational pit, and sanitary land fill and garbage pit. As female anopheles lay millions of eggs in its lifetime, so the destroying of the breeding spot of the larva is one of the best possible ways to control malaria. This practice is harmless to ecology and requires a simple mechanism of human participation. Anti-larva measures demand human participation more than technology. The lack of human interest and ignorance contributes to multiplication of egg breeding.

Two interventions that are introduced as part of anti-malaria program are Indoor residual spraying and Insecticide Treated Net (ITN) which are practiced under the guidance of NAMP to reduce malarial parasite. Indoor residual spraying (IRS) is undertaken in primary health center where there are expert staffs under the guidance of health supervisor and health inspector. Insecticide Treated Net and Indoor residual spraying are two of the main intervention carried out by the government in malarial control and is recommended to use in the hilly terrains and rain forest area of North East India and in rice cultivation region. IRS was first carried out in 1958 but later it then focus mainly to the rural area. Bhatia et al., (2004) study the cost-effectiveness of these two interventions where it is found that ITN is more efficient and better than IRS compared with the cost and fund. The success of ITN over IRS is not the discussion. However, the inefficiency of IRS may be due to the concern of not attending every household for spraying insecticides. There would be chances where people hesitate to let their house sprayed due to fear of poison from the chemical of spray or because of the whitewash and some dislike the smell of the chlorinated hydrocarbon. Some issues also rises on the environmental pollution due to insecticides, lack of knowledge on social, economic, ecological and health facilities of the vector control areas.

Community participation and awareness in Malaria control

Disease control and prevention failure and success depend largely on the participation of the community. Health education and awareness of malaria control is the target of health workers

among the people, especially in a low literacy rate place. Convincing the perspectives of the community against health and health care, treatment and prevention may not be a very easy task for health workers. Each society has its own culture and perception, tradition and rituals. Breaking the norms of others' social practice, especially on health and traditional healing and medical system by introducing new medical system and intervention is a challenge. Public health education as the first step to acknowledge is a concern for the government when introducing or launching new health policy or program. Since the health program and policy are made for the layman, training the people in understanding the programs and measures of malaria should begin with a simple activity.

Malhotra and Ojha (1993) in their study of Haldwani in Bhabar belt gave a list of activity of health education among the people. This activity consist of health camps, villages covered health camps, group meeting, exhibitions, slogan writings, pamphlets distribution and video show. The people in their participation of controlling malaria are educated and trained towards taking care of fishes in domestic tanks. People would refill the water tank with fresh water, removing predator fishes and preventing overcrowding fishes and regularly checking the mosquito larvae breeding. Educating the public requires to understand the situation and problems of the pubic masses. It is essential to first see how to approach, talk, and then convince the public in recognizing and appreciation of the free lesson on health. Public meeting is one significant way that attracts people rather than time consuming health camp. The health staffs or medical experts however, has to be convincing in public education on health and health benefits and prevention, hence, even the uneducated could perceived in the simplest narration.

Focusing on rural health education is a major task that requires patience and time. In most rural area, especially in some tribal area, people tend to spend most of their time in field or their working place with no proper cover at night. Due to their simple livelihood, occupation and economical background, people could not enjoy and access basic needs of health education. In terms of malaria control, the rural populations with their busy schedule of occupation are not very much aware of the requirements and necessity of malaria control agents like IRS, ITNs and others. And due to the demand of their occupation, giving time to health education by medical and program staffs is not easy. This is one of the challenges in awareness campaign and community participation despite availability of fund and resources.

Bio-environmental control of malaria is one of the most efficient ways of controlling malaria through the involvement of community. It is one of the most influential involvements of the masses in malaria control program. Environmental contributes a great mechanism of controlling malaria, which often is mistreated and ignored despite knowing the causes and effect of unattended water sewage, pot hole, rain drenched vehicle tyre in street, ponds and other areas. A low lying land with swamps bring an outbreak to malaria disease, which modern study exclaimed that anopheles mosquitos reside in a low shallow pool and breed its eggs (Samantha: 2001). Herein, masses are taking great zeal of participation in keeping the pond clean, constructing soak away pit for water management, promoting planting trees and production of larvivorous fish (Tiwari et al.,:1993). In rural areas there are numbers of old wells which are not actively used. Such wells are a good hideout place for mosquitos to breed. Hence, larvivorous fish eats the mosquito's larvae, killing the eggs from becoming adult mosquitos. Regular checking of the well debris is required and the people are quite co-operative with positive response towards the control of mosquitos and malaria through the method of using old well debris with fishes (Srivastava et al.,: 1993). Shramdan organizing of filling the pot holes, repairing filled-water road and construction of the roads contributes the representation of the people as collective masses. People are motivated when worked in shramdan without financial profit or expectation. People would contribute their physical strength and those who could not physically contribute would donate an amount of money for repairing and construction of roads or playground.

The contribution of community in an action against malaria cannot be a triumph that should be celebrated with each malaria cases dropping down. The malaria control program may have seen positive results over the past years by controlling mortality rate and cases of malaria in India. However, new strategy of how to completely eradicate malaria diseases is not yet found in spite of malaria being more than a century life taking disease.

Issues and problems of anti-malaria program and measures

On the global level, malaria control is a world concern. The World Health Organization has taken up many programs, policies and schemes promoting anti-malaria especially in the third

world countries. Serious misuse of medical prescription and medical commercialization, lack of sufficient fund and trained medical staff are the concern of health administration in the development of anti-malaria program. Voluntary Health Association of India (1997) discuss that one of the biggest deficiencies of the malaria control program is the lack of scientifically functional diagnostic facilities. The diagnostic in health care system lack proper blood test and examination, lack of maintenance of microscope and lack numbers of expert technicians. Early diagnostic of malaria disease can save life and be treated regaining good health. The deficiency of expert technicians and facilities led to worsening of malaria epidemic, which is also one cause of the 1995 malaria outbreak. And due to this, many clinics are left unattended or some get close down. The decentralization of malaria control at the rural and urban was to promote anti-malaria program however led to confusion and inadequate responsibility among health workers in carrying out proper system.

Slow in progress highlights the need of adequate fund and well function health system. In a larger framework, the private sector of health care and practitioners occupied larger space and place in both rural and in urban areas. However, it is surprise to see the insignificant participation and role of private sector in the malaria control program. On the other hand, it is undeniable that private health care is more commercialized and unethical in prescribing drug or following the regime of drug policy. Malaria diagnosis, utilization of treatment regimes, educating the private as well as public sector health worker is much necessary in the contribution of malaria control program.

Dev et al., (1993) discussed the problem of carrying out malaria control among the tribes in Sonapur, Assam. The practice of traditional medical system and witchcraft create among the population of the tribe reluctant towards using ITN or hesitancy of giving blood examination when sick. The lack of education and knowledge contributed largely for the slow-in-progress of the malaria control program. To educate the people towards malaria control, the health staffs have to distribute bed nets impregnated with synthetic pyrethroid. The free sample seems to be a success among the people with more requests for supply of bed nets. Implementing malaria control program and policy requires a regular follow-up session and continuity. However, most health worker in vector borne disease are teacher, students, young ladies and social workers (Singh et al.,: 1993), thus continuous effort of malaria control education is irregular. This lack of

staff led to negligence among the masses and inadequacy of practicing further more on malaria control program. The deficiency of human resources and lack of skill is one problem faced in malaria control. The government has provided malaria training to Primary Health Care workers and to Volunteers in laboratory as technician, smear technician, monitor and supervisor in areas of epidemiology, entomology, treatment and prevention strategies and so on. Voluntary Health Association of India (1997) also highlighted the corruption inside malaria control program as one problem which affected the efficiency of the program to progress. Bribery during tender, purchase of drugs and necessary equipment, bribery within the administration and involvement of politics within drug manufactures are all present within the program framer and researchers which may contribute in the loopholes of policy and program of anti-malaria measures.

Conclusion

Malaria has been an issue, debatable topic and concerned disease control program under National Health Mission for many decades. Unlike other epidemic like cholera, smallpox and plague, malaria disease has been continuing to be one focus of health care. More than treatment, prevention and control of malaria disease are the focus of the malaria control program. From the first day of the introduction of National Malaria Control Program in 1953 to present days, malaria control program has been concentrating on the public health issues, both rural and urban. Malaria control program in India is made to reach every level of household, in a simplest form to be understood even by illiterates. This implies that the malaria control program understands the response of public and developing approaches of research through technology and science and imposing health education to the masses through proper channel. In 1995 and 1996 India suffered another epidemic malaria disease which has massively affected Rajasthan. This case questions the failure and delimits of the malaria control program in India and reframing of new action against malaria is taken up. To control and prevent malaria, especially in the context of India, poverty needs to be considerate as first and foremost importance. As during the time of colonial India, environmental change and vegetation should be addressed in the guidelines and evaluation of anti-malaria program giving importance beyond laboratory research and drug policy. Kaul (1995) mentioned that the accountability of system is necessary for the success of National Malaria Control Program even if there is equipment and resources, yet if the

administration fails to take action then anti-malaria program will show slow progress. Health Program needs to see that every program or measures undertaken should be utilized for the improvement of health issues and problems. In the past years many hospitals, primary and urban health care, research institutions has been established for the improvement of public health care. Yet, it fails in many ways to meet the sufficient necessity and requirement. Development in system and component evaluation is yet to be improved in the approaches of health program which has not met the desire expectation. The Millennium Development Goal, which is an International strategic plan aim to reduce the mortality rate by 2015, still remains a focus with hope even in 2015.