SOCIAL AND CULTURAL ASPECTS OF MALARIA

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Abstract. This paper examines the impact of social and cultural factors on malaria control in rural Thailand. It contends that standard vertical malaria control programs tend to ignore local workplace and living conditions instead of recruiting traditional practices into the planning scenario for more effective control. Careful attention to these practices in the context of local economic capacity can serve to offset the common failure to take the major causative factor of poverty into account.

INTRODUCTION

The discovery of malaria parasites as the specific causes of malaria as well as the discoveries of the life cycles of the several parasite species, of the mosquito carriers, and the role of the human host are the outstanding discoveries so far in the history of malaria. It would indeed be great to be able to announce to the world that there will be no place for malaria any longer. However, the malaria eradication effort of the 1950s failed. Problems such as malaria resurgence, malarial drug resistance, people's aversion to insecticide spraying, insecticide resistance of mosquitos and the changing behavioral modes of mosquitos under environmental selection made the eradication program impossible. The eradication program was thus changed to be a control program with more limited objectives. After set-backs over two to three decades, efforts were revived again in the guise of the Roll-back Malaria Program of the current World Health Organization director, Dr Gro Harlem Brundtland. In order to concentrate the effort, this paper proposes a social and cultural approach to solving the malaria problem.

CRISIS OF THE MEDICAL AND PUBLIC HEALTH MODEL OF MALARIA

The crisis of the medical and public health paradigm focuses primarily on the malaria parasites and the mosquito vectors. Human beings as social animals and their social environment have been to a large extent ignored. The crisis cannot be adequately addressed without considering the problem of international migration and poverty. It cannot deal effectively with human attributes such as drug compliance, preventive behavior such as using bed-nets and acceptance of chemical spraying. These problems are not primarily medical and public health problems; they are cultural, political and economic problems. Therefore, the medical and public health approach alone cannot provide answers to the underlying questions.

SOCIAL AND CULTURAL APPROACH TO THE MALARIAL PROBLEM

The social and cultural approach emphasizes social and cultural phenomena such as social institutions comprising cultural or social norms, social status, social roles, and social structure, as well as various health institutions. We have to understand these social and cultural concepts first in order to understand human behavior.

These phenomena can be conceptualized by using various approaches. According to the structural and functional approach, social institutions exist in order to perform necessary social functions, such as health institutions for promoting health of the people. According to the cultural approach, each social institution accumulates its own knowledge, resources and practices. For example, the health institution

accumulates medical knowledge and utilizes the resources of both local and modern medicine to treat patients. According to the conflict perspective, knowledge, resources and practices of each social institution are not equally distributed. They are usually distributed by means of political power. Those who have more power earn more than those who have less power, such that rich urban people have more health resources than the rural poor. These concepts have influenced malaria epidemics and the impending malaria crisis.

There is a close relationship between illness and the influence mediated by health institutions and society. On the one hand, society promotes illnesses by forcing people to expose themselves to diseases during social activities, such as economic or military actions. One of the means of forcing people to be exposed to disease is poverty. People perform risky economic activities because they are poor. On the other hand, society has health institutions to assist the sick become healthy. In the process of making the sick people become well, the health institution accumulates a lot of medical knowledge. This medical knowledge can be classified in categories such as traditional medicine, modern medicine and social medicine, for example. Rather than eliminating this poverty, society prefers to focus on tackling the diseases associated with it. Moreover, in the process of curing the diseases, society prefers to use primarily only one set of knowledge, modern medicine. Other local or traditional medicine and social medicine are largely ignored. In addition, in the process of curing diseases, society authorizes only people from the health institution to undertake the care of process. Common people and other local medical systems are not allowed to participate very actively. Consequently, many problems, especially non-compliance, begin to appear.

Malaria is well fitted to this perspective. On the one hand, society produces illness in rural areas. It takes resources from rural areas or increases the inequality gap between rural and urban populations. It contributes to the poverty problem in rural areas, poor people being forced to find new economic opportunities by invading the national forests for land as a means of subsistence. Soldiers and paramilitaries are sent to border areas, thus to become exposed to malaria.

On the other hand, society authorizes only medical professionals who use modern medicine to control malaria. The medical authorities excludes other local medical systems from participation. The vertical program of the malaria control program is one form of exclusion. The medical profession defines people who have the malaria parasites as patients, not as partners to combat malaria.

Thus malaria is a poverty problem. The poverty gap in Thailand since the first five-year national economic plan has become wider. More poor people became migrant laborers in cities, especially in Bangkok. Some of them moved to national forest areas to find pieces of land to sustain themselves. Therefore, forest coverage in Thailand was quickly reduced from 75% to below 20% within three decades. Moreover, the authoritarian system forced poor people and students to join the Thai Communist Party in the forest, then the government sent soldiers to control them, all were exposed to malaria and many suffered from it.

Currently, indigenous populations dwelling in the forest regions have also been transformed into poor people. Their lands were taken away by the poor people from the lowlands. They were included into the capitalist system, exchanging their self-subsistence economy for a cash economy, as their normal means of subsistence was gone. They became poor wage workers. Refugees from our neighboring countries entered Thailand carrying malaria. They were also forced to leave their homeland because of the authoritarian system and of poverty. Soldiers from Thailand, neighboring countries, and rebel groups also occupy these areas. Four groups of people - the indigenous people, lowland people, refugees and soldiers are concentrated in the border areas. All of them use the forests and mountains to sustain their lives and therefore they

are exposed to malaria. As long as these problems, which are not readily conceptualized by the medical model, persist, the malaria problem still exists and is ready to expand again.

According to Panvisavas *et al* (2001) and Yu and Liu (2000) malaria is related to poverty. The majority of the people in the Thai-Myanmar border area are deprived of health resources by the power relations between the majority Karen born in Thailand and the minority Karen born in Myanmar and other migrants from Myanmar. War has deprived them of everything and forced them into communities that have almost nothing for them to do to earn their living. Forest are gone or have access restricted by forestry workers on the one hand and Myanmar military incursions on the other hand.

Poverty forces these people to risk contracting malaria in ways such as going back to the forest to hunt or gather food, to find places to grow rice and their other traditional foods, to become wage workers of the rich people who ask them to cut wood or bamboo, or to transform the forest into farmland. Poverty prevents them from receiving health services and other welfare services. Poverty makes them fight each other for limited resources, creates tension or increases discrimination among them. Poverty forces them to become itinerant, so to move from one place to another and carry diseases with them.

Meanwhile, the local cultures of medical systems applied in relation to risk factors are ignored. The malaria problem is an ancient one that these people have tried to understand. They have continually used trial and error in their efforts. Basically, people have learned about the problem of malaria locally and traditionally. These people over generations have classified, named, explained and produced curative or preventive measures for malaria and shared them to become part of their lives. For example, malaria which means "*mal-air*", refers to the observation of local people who were able to see the relationship between malaria and humidity in rainy seasons. People learned to avoid *mal-air* or to protect themselves from malaria during this period. In Thai society and in Karen communities, they learned the same things. They observed that malaria is associated with forests, teak flowers, and water, therefore, they named it forest fever, teak flower fever and water spirit. Again they learned to protect themselves when they are in the forest near water and during the rainy season when teak flowers bloom. People form a local medical culture for themselves. Regardless of how effective it may be, it is shared and people understand and participate in it.

Then modern medical measures for malaria were introduced with new classifications and a new name "malaria", explained in terms of mosquitos, and introducing effective curative measures based on blood tests and commercial therapeutic medicine. Control of the knowledge, control of the instruments or curative measures shifted into the hands of malaria health workers. A community problem became an individual problem and a medical problem. People shifted responsibility from the community to the modern or state medical system.

A contradiction between medical authority and local culture is also seen in the problem of bed-nets. Using bed-nets is a protective measure from the medical model, as well as a response to a risk factor. The medical assignment is to make people sleep under bed-nets. However, using bed-nets is also a cultural problem. Karen people used to live in the forests and mountains with a simple life. They have their own ways to prevent mosquitos and the chill of the weather by making fires to produce smoke to chase away insects, as well as to warm their houses. Their ability to make or to buy bed-nets is low. They make and use cotton blankets instead. Therefore, they do not get used to the nets. It does not mean that when they have bed-nets, they will not use them because of their culture. Those who do not use them need careful investigation and correction. The bed-net material may be too thick or its size may be too small or ventilation of the room may need to be improved or they need mosquito-proof rooms instead. Bed-nets and bed rooms can be adapted

to human needs.

The use of bed-nets is also an economic problem. After using bed-nets becomes part of their culture, many people are too poor to buy the nets for everyone. Cash is difficult to find and food or other priorities are higher than that of the nets. The retail price of the nets in the communities is three times higher than the wholesale price of the nets in Bangkok. Not only is the price high, but the nets are also difficult to buy. They are not available in the communities as they are in the cities. Many people, especially illegal migrants or misplaced people, cannot come to the cities to buy them. They have to wait for venders who occasionally come into their communities. Many times they do not have cash ready so they have to use credit, which makes the price of the nets too high for purchase. The cultural problem of the nets becomes an economic or poverty problem.

The used of bed-nets is also a political problem. The modernization process allows the rich to get richer but the poor stay poor and remain exposed to malaria. In order to solve the malaria problem, malaria health workers ask the people to sleep in chemical impregnated bed-nets. People are able to see that mosquitos and other insects die after touching the nets. They worry about themselves, since they have to sleep about eight hours every night in the dangerous nets. They wonder will they die in the same way as the insects? Only the rich are able to sleep in screened bedrooms or air-conditioned bedrooms, while the poor have to sleep in the insecticide-treated bed-nets.

Moreover, bed-nets help reproduce inequality in communities. Bed-net revolving funds that were implemented two decades ago allowed only the relatively rich to access the nets. Revolving funds started, based on the concept that many people do not have enough money to buy mosquito nets. However, if everybody invests their small amount of money in the revolving fund, they will have enough money to buy them. Once they have the nets, people can buy them and make monthly payments for three or four months. When all the debts are clear, they could buy a new lot of bed-nets for the second batch and continue this until all have nets. However, after the second to the fourth batch, the circulation ended. All the rich, who were the organizers of the fund, got their nets and had no motivation to run the fund, and the circulation took a longer time because they did not want to repay the fund and the organizers did not have the motivation to go out and ask for money. Consequently, the poor and those who suffered most from malaria and who also invested their money in the fund did not have a real chance to get the nets. In this process it turned out that the poor bought the nets for the rich who had less need of them for malaria prevention but only to have extra nets.

A contradiction between medical measures and poverty eradication measures is also seen in insecticide spraying. One of the major public health measures in controlling mosquitos is using insecticides to the control vector activity. This cannot deal with poverty and it is poverty that forces people to go out and become exposed to the mosquitos. The current Director of the Department of Communicable Disease Control expresses his concern over the ineffectiveness of using insecticides to control mosquitos. The cost of insecticides is very high and they have to be imported. The rate of refusal to insecticide spraying rate is getting higher.

Changing from DDT to other insecticides such as Delta to gain more effectiveness also leads to higher costs – the higher cost of the insecticide itself and the higher cost of application. Since the new insecticides cannot be seen by the naked eye, they need special procedures for quality control such as putting mosquitos on the insecticide-applied wall. If the testmosquitos died, the insecticides were applied onto the wall. Training cost, supervision cost, labor cost and equipment cost are also high. Changing mosquito habits from resting in houses to resting outdoors also makes insecticide use ineffective. Therefore, it seems reasonable to re-evaluate this measure.

Moreover, in terms of ecological impact, the chemicals can destroy not only mosquitos but other useful insects. There are many reports about chemical resistance of mosquitos because of the wide use of chemicals in the agricultural sector. Many people in endemic areas believe that it is the malaria parasites that are the problem, not the mosquito, therefore, they argue, mosquitos should be allowed to live freely, that it is the duty of malaria workers to get rid of the parasites from the mosquitos as well as from the people.

In addition, the effectiveness of insecticide spraying is also a problem. According to Hongvivatana (1977), nationwide DDT spraying was not related to the reduction of the malaria rate in Thailand at all. Longitudinal data on the malaria rate from the Malaria Division have been plotted and the beginning of nationwide malaria spraying in 1952 has been examined in retrospect. The slope of the malaria curve did not change at all due to the spraying and the reduction rate that occurred before the spraying remained the same. Hongvivatana argues that the reduction rate of malaria was related to economic growth after the second world war. That growth brought people more and better food, health care and other basic needs. Therefore, it is believed that insecticide spraying has had little effectiveness.

DDT insecticide spraying also raises a problem between health workers and the people. People do not get information and preparation for the spraying. Applying the chemicals without community participation causes disputes because people complain that their houses get dirty, water gets contaminated and their poultry die, while malaria workers complain about problems with the people's cooperation. In some places, when people throw stones at the spraying team, the spraying team also throws stones back at them.

Finally, when the malaria problem is monopolized by the medical profession, people are excluded and the local medical system is also excluded. Communities are also excluded from participation. The malaria illness becomes an individual problem. A person with malaria can visit the malaria clinic by himself and take a rest. Nobody else has to worry because it is just malaria and the clinic is involved. No one in the community knows how many people get malaria. No one knows that by working together they can help each other to get rid of the malaria parasites from themselves and from mosquitos by taking antimalarial drugs at the same time and preventing themselves from being bitten for only two weeks to a month. Then the parasitess will have no place to stay. However, no one tries to mobilize the people to do it.

SOCIAL MEASURES OF A MALARIA CONTROL PROGRAM

Medical and public health measures are necessary to combat the malaria problem but they alone are inadequate. In addition to medical and public health measures, basic necessary concepts of this approach are social justice, genuine community participation and cultural sensitivity.

Social justice

Malaria is a poverty problem. People who are deprived of health resources are vulnerable to malaria. Deprivation happens, and therefore controlling malaria requires a poverty eradication program. This study shows that malaria epidemics are related to deprivation of resources that protect people from malaria. People get malaria because they are poor. People need a means of subsistence. In some places land and forest are their major means of subsistence and in other places paid employment is the means of subsistence. Reallocation of land for farming and preservation or expansion of forests for them to collect food are needed. Providing jobs is also important.

Malaria transmission facilitated by discrimination along ethnic lines requires an antidiscrimination program. Discrimination is a contributing factor to malaria epidemics. The poor and misplaced people who migrate in and out of Thailand carry the parasites with them.

Many ask why they should have to pay for those who are not Thais. They do not know that they have to pay for them in order that they will not have a malaria problem themselves: mosquito transmission does not discriminate.

Genuine community participation

Empowering those who suffer most is necessary. To help the poor and the suffering to help themselves and to end discrimination requires that the poor and the suffering learn that they have power and that malaria is not only an individual problem and a medical problem, but the problem is a collective and political problem. They must learn to unite to get rid of the malaria parasites from their bodies and at the same time stop the cycle of the parasites. Most important is to learn to unite to stop exploitation and discrimination against themselves in order that they can improve their well-being. They must be empowered to choose their own way of life.

Direct participation of those who suffer most in the eradication of poverty and a program to end discrimination as well as a malaria control program is necessary. Exclusion of people from a malaria control program, as in the vertical program, should be stopped. Demanding compliance should be reversed. Direct participation also means participation in the political system to determine the best medical system for themselves.

Organization of the malaria control program must be horizontal and use net-working. Not only the malaria control program and the people should be involved in this effort, but other organizations, both public and private, should participate. Therefore, malaria workers must also work as development co-ordinators of communities.

Cultural sensitivity

It has been emphasized that malaria is not only a medical problem but also a socio-cultural and political problem. Therefore, it is not effective only to use a medical and public health approach in controlling malaria. It is not difficult at all to include local knowledge of malaria, such as the water spirit, in relation to preventive measures in the control program. Working against cultural beliefs usually will not get co-operation from the people. It is necessary to recognize that all of the risk behaviors and control measures are cultural factors. We must learn how people give meaning to risk behavior and malaria control measures and then try to solve the problems together with them. Most of the measures are technically innovative in nature, and therefore it is easy to adapt them to human needs: we should not try to bend human needs to technological innovation.

REFERENCES

Hongvivatana T. Health, population and economic development in Thailand. *J Poppul Stud* 1977:4 (in Thai).

Panvisavas S. Poverty and malaria: A study in a Thai-Myanmar boder area. *Southeast Asian J Trop Med Public Health* 2001: 32: 608-14.

World Health Organization. Roll Back Malaria: A Global Partnership, WHO, RBM.Draft/1; 1998.

Xu J, Liu H. Forest, mountains and malaria in Asia, Africa and South America. *Mosq Borne Dis Bull* 2000; 17: 6-9.