MALARIA PERCEPTIONS AND PRACTICES IN BHUTAN

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Abstract. The aim of this study was to understand the perceptions and practices concerning malaria in Bhutan so as to initiate a basis for further study. This study was conducted from July to August 2007 by using focused group discussions with health workers, community members and village health workers. Our study revealed that certain portions of the fever patients in the community seek alternative remedies within their communities before availing modern treatment facilities. The main factors causing delay reporting to the health facility were long distance to the health facility, socio-cultural and religious practices, financial, lack of manpower, and lack of knowledge, cultural norms and quality of services from health facilities. It can be concluded that there is still a major problem seeking early diagnosis and prompt treatment by a fever patient. In order to overcome the problems and achieve the program goals, further studies are needed to generate evidences in developing interventions to promote the early diagnosis and prompt therapy.

Key words: malaria, perceptions, practices, Bhutan

INTRODUCTION

Bhutan, situated between Indian to the south and China(Tibet) to the north, is divided into twenty districts and has population of 649,000 (WHO, 2009). Like many developing countries (Alilio *et al*, 2004; Worrall *et al*, 2005; Chuma *et al*, 2006), Bhutan is affected by malaria; with more than half of its population at risk of getting malaria. The five southern districts bordering India have perennial transmission, and ten other districts have seasonal transmission of malaria. With strong political and financial support for malaria control, malaria morbidity and mortality has reached its lowest point over the past decade. Over the past seven years, from 2000 to 2007, malaria cases were 5,935, 5,982, 6,511, 3,806, 2,670, 1,825, and 1,868, respectively (Vector-borne Disease Control Programme, 2006; WHO, 2008). Currently, there is no private medical practice in Bhutan. Therefore, health care, including supply of essential drugs such as anti-malaria drugs, hospital stay, and referral outside country for complicated cases, are provided free-of-charge to the public. However, there are a few retail pharmacy shops. At present, malaria control in Bhutan is based on the three-pronged strategy that focuses on (a) reducing man-mosquito contact and vector control using long-lasting insecticide treated bed nets, (b) reducing transmission by indoor residual spraying in epidemic prone and outbreak areas, and (c) providing early

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diagnosis and prompt treatment with artemisinine combination therapy. To eliminate mortality associated with malaria, the program has set a goal of treating all fever patients within 24 hours of onset of fever and within one hour upon arrival to health facility. Despite all these efforts, malaria is still a major public health concern, there are still deaths due to malaria, and most death due to malaria occur due to delayed treatment. For example, in 2006, 4 out of 6 deaths due to malaria were due to delayed treatment (Vector-borne Disease Control Program, 2006).

The malaria indicator survey conducted in 2006 showed a good coverage of long lasting insecticidal net (LLIN), with over 90% of the survey households in perennial transmission districts having at least one mosquito net per household (Tobgay and Yoeser, 2006). The problem of early diagnosis and prompt treatment, which exists in several countries, was addressed by different interventions, and there is evidence that well-designed interventions can improve patients' behavior in seeking early diagnosis and treatment for malaria (Ahorlu *et al*, 1997; Reilley *et al*, 2002; Heggenhougen *et al*, 2003; Akogun and John, 2005; Giao *et al*, 2005; Buabeng *et al*, 2007). Although the malaria situation in Bhutan has achieved considerable success, considering the unstable malaria situation, the constant influx of population across the border as well as global warming should caution against any relaxation in malaria control that could easily reverse the situation, and malaria could return to Bhutan with epidemic proportions. Hence, to sustain the currently morbidity and mortality, the Bhutan malaria prevention and control has to be renewed with new knowledge and tools based on evidence generated within the local context. To our knowledge, apart from WHO reports and country report on morbidity and mortality, there is little literature on the malaria situation in Bhutan. Therefore, this study was conducted to understand the perceptions and practices regarding malaria in the communities of Bhutan.

MATERIALS AND METHODS

Eight focus group discussions (FGD; three with medical profession, three with community members, and two with village health workers; each with 8-10 participants) were conducted from July to August 2007, coinciding with the peak in malaria cases. The main theme was to explore perceptions and practice by the communities when they get malaria symptoms. The medical group consisted of medical doctors, assistant clinical officers, health assistants, malaria workers, and chief nurses. In the community group, the members consisted of village head, women representatives, and community elders. A separate FDG for village health workers were also conducted.

The principal investigators moderated the focus group discussion in presence of two recorders who took the minutes of the discussions. Ethical clearance was received from the Health Research Working Group (HRWG) of Bhutan, which was also ethical clearing agency in the Ministry of Health. Further, written approval was received from the Secretary, Ministry of Health. Informed consent was sought before the discussion, after explaining the objectives and benefits of the study and confidentiality of the discussion. The findings are analyzed under three broad headings concerning perceptions about malaria practice by the community members when they get fever.

RESULTS

Perceptions of malaria problems

Most of the community felt that malaria is still a problem in the community, although they stated that the cases had reduced. Malaria is known in Bhutan by different names, depending on the ethnicity of the population, such as *tshad pa* in Sharchops, *tshay nay* in Dzongkha (national language), and *aw-li joru* in Lhotshams. However, apart from the few people who have recently resettled in malarious areas, most of the people interviewed knew the word, "malaria." The results of the focus group discussions indicated that, although most of the people knew that malaria is transmitted by mosquito and that using mosquito nets will prevent them from getting malaria, there are still people who believe that malaria is caused by bad air, by staying in rain and sunshine. The people who had recently settled in malarious areas had no idea about malaria. One of the new settlers who came from eastern Bhutan said:

> There is no such disease in my old village. On arriving, the locals told me that we have to be careful of malaria, and to prevent it, we should not work in strong sun or rain.

The village health workers said that suffering from malaria had reduced significantly over time. They all stressed that, in the community, village health workers carry out many activities to prevent malaria transmission, such as making household visits to improve sanitation to reduce breeding sites, promote mosquito net use, and refer fever patients to the health facility.

Most of the health workers agreed that malaria is still a major threat to the public, although the morbidity and mortality have decreased over the past decade. They insisted that prevention activities have to be intensified to prevent epidemics. They stated that delayed reporting to health facilities was the major problem leading to complications and mortality.

Practice by patients with fever

Even in terms of practice, the ethnic variations were noted. Most of the communities consulted some form of religious body or local healers before seeking medical help. Nevertheless, all the community members stated that such practices are becoming less popular especially for malaria fever for which modern allopathic health is gaining popularity.

Community members also stated that they visit the village health worker who prescribes them paracetamol whenever they have a health problem. This statement was inconsistence with the village health worker's statement mentioning that, when most patients with fever in the community reported to them, they first provide paracetamol for about 2-3 days and advised the patients to report to a health facility if they did not get better. One of the village health workers said:

> In my village, one child was brought to me due to fever. I gave some paracetamol and asked the mother to take child to the health center immediately. After a few days during my regular visit to the village, I still found the child sick in the village and parents were busy performing *rimdoo* (religious rituals).

On probing as to the reasons for not coming to health facilities as soon as possible, most of the community members stressed that long walking distances to the health facility, compounded by difficult terrain, especially during monsoon, are the major barriers to accessing health facilities.

Other reasons offered were lack of money, long waiting time at the hospital, unfriendly health workers, and loss of faith in the medical profession. Conversely, the village health workers thought that some of the reasons for delayed treatment were due to the lack of people to accompany patients to health facility as it was the case with a child who was kept home even after the advice by village health worker to the parents who were busy with rice planting. Other reasons cited were customary practices and beliefs in religious ceremonies, and lack of awareness. Although some health workers also shared the similar views, such as lack of finance, stubbornness, and long walking distances (some villagers may take days to walk to the nearest health facility) as some of the possible factors impeding early diagnosis and prompt treatment, others had some stronger views, as one of the respondents said:

> No matter how much awareness is created among public, they fail to understand and tend to prefer religious rituals, which are useless and a waste of money.

DISCUSSION

Our study showed that awareness about malaria is not a major problem; however, it is evident that merely awareness is not sufficient for patients to seek early medical care (Espino *et al*, 1997; Espino and Manderson, 2000). It was evident from our study that the community relied on alternative methods of treatment for fever. The discussions suggested that most people sought the help of the local healer first and then the village health workers. The importance of community volunteers and local healers in the prevention and control of malaria should not be undermined, and their role needs to be strengthened (Okanurak *et al*, 1991). The study indicated that people with fever in the villages seek different types of remedies before they visit health facilities. This could mean that there could be numerous fever patients not reporting to health facility, clearly indicating the under-reporting of malaria cases. The health workers in our study group believed that traditional health healers are one of the barriers to early diagnosis and prompt treatment. This was also emphasized by the village health worker: one of the patients stayed home despite the advice of village health worker.

However, studies have shown that traditional health care is not necessarily a significant impending or a delaying factor in the treatment of severe malaria, and involvement of traditional healers could facilitate early referrals (Okanurak *et al*, 1991; Hornrado and Fungladda 1994; Makundi *et al*, 2006). Since health care in Bhutan is provided free by the government, it seems reasonable to assume that cost would be the least worrying factor that would impede early diagnosis and treatment. Conversely, during our focus group, a number of participants said that lack of financial capabilities was one of the reasons for a delay in treatment. There is a scarcity of cash in the rural community even to meet the meager cost of transportation and for other expenses associated with the patients.

It was observed during the discussions that the village health workers have been treating fever symptoms with paracetamol for 2-3 days. This provision of paracetamol by the village health worker may induce complacency without clear therapeutic objective and may seriously delay malaria treatment. Therefore, their mandates in the management of malaria have to be redefined as to best utilize the available system without jeopardizing the therapeutic objectives.

In conclusion, we can suggest that this study, within its limitations, has suggested the unique characteristics of the Bhutanese community perceptions and practice for malaria and its symptoms. This could serve as a stimulus for further research to be conducted to better understand the malaria situations within the local context and facilitate the program for malaria elimination in Bhutan.

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REFERENCES

Ahorlu CK, Dunyo SK, Afari EA, Koram KA, Nkrumah FK. Malaria-related beliefs and behaviour in southern Ghana: implications for treatment, prevention and control. *Trop Med Int Health* 1997; 2: 488-99.

Akogun O, John KK. Illness-related practices for the management of childhood malaria among the Bwatiye people of north-eastern Nigeria. *Malaria J* 2005; 4: 13.

Alilio MS, Bygbjerg IC, Breman JG. Are multilateral malaria research and control programs the most successful? Lessons from the past 100 years in Africa. *Am J Trop Med Hyg* 2004; 71 (2 suppl): 268-78.

Buabeng K, Duwiejua M, Dodoo ANO, Matowe LK, Enlund H. Self-reported use of anti-malarial drugs and health facility management of malaria in Ghana. *Malaria J* 2007; 6: 85.

Chuma JM, Thiede M, Molyneux CS. Rethinking the economic costs of malaria at the household level: evidence from applying a new analytical framework in rural Kenya. *Malaria J* 2006; 5: 76.

Espino F, Manderson L. Treatment seeking for malaria in Morong, Bataan, The Philippines. *Soc Sci Med* 2000; 50: 1309-16.

Espino F, Manderson L, Acuin C, Domingo F, Ventura E. Perceptions of malaria in a low endemic area in the Philippines: transmission and prevention of disease. *Acta Trop* 1997; 63: 221-39.

Heggenhougen HK, Hackethal V, Vivek P. The behaviour and social aspects of malaria and its control: an introduction and annotated bibliography. Geneva: UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases (TDR), 2003. [Cited 2009 Jul 04]. Available from: URL: http://www.who.int/tdrold/publications/publications/pdf/seb_malaria.pdf

Hornrado E, Fungladda W. Social and behavioral risk factors related to malaria in Southeast Asian countries. *Phil J Microbiol Infect Dis* 1994; 23: 76-80.

Giao PT, Vries PJ, Binh TQ, Nam NV, Kager PA. Early diagnosis and treatment of uncomplicated malaria and patterns of health seeking in Vietnam. *Trop Med Int Health* 2005; 10: 919-25.

Makundi EA, Malebo HM, Mhame P, Kitua AY, Warsame M. Role of traditional healers in the management of severe malaria among children below five years of age: the case of Kilosa and Handeni Districts, Tanzania. *Malaria J* 2006; 5: 58.

Okanurak K, Sornmani S, Chitprarop U. The role of folk healers in the malaria volun-

teer program in Thailand. *Southeast Asian J Trop Med Public Health* 1991; 22: 57-64.

Reilley B, Abeyasinghe R, Pakianathar MV. Barriers to prompt and effective treatment of malaria in northern Sri Lanka. *Trop Med Int Health* 2002; 7: 744-9.

Tobgay T, Yoeser NJ. Malaria indicator survey. Thimphu, BT: Vector-borne Disease Control Programme, Ministry of Health, 2006.

Vector-borne Disease Control Programme. Annual malaria report 2006. Thimphu BT: Vector-borne Disease Control Programme, Ministry of Health,2006.

World Health Organization (WHO). World malaria report 2008. Geneva: WHO, 2008.

World Health Organization (WHO). Country profile: Bhutan. Geneva: WHO, 2009. [Cited 2009 Jul 04].Available from: URL: http://www.who.int/countries/btn/en/

Worrall E, Basu S, Hanson K. Is malaria a disease of poverty? A review of the literature. *Trop Med Int Health* 2005; 10: 1047-59.