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Malaria in Paracelis, Mt. Province: The Human Factor

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Although endowed with a bounty of natural resources, Paracelis has to contend with malaria-bearing mosquitoes that opt to thrive in the streams and forests surrounding it.

For several days in a three-month stretch, a two-woman team of researchers from the Cordillera Studies Center - U. P. College Baguio dotted the dubious landscape of Paracelis, Mt. Province. They ventured into the area armed with an intent to understand the role of human behavior in a vicious cycle of sickness and health that is malaria.

At one moment despairingly arid and reassuringly lush, the next, Paracelis is an irony of sorts. It is a municipality cohabited by a potpourri of ethnic groups – Balangaos, Baliwons, Ilocanos, Kalingas - coming from nearby Natonin, Mt. Province, Kalinga, Apayao, Ifugao and Isabela. Only a number of barangays are accessible by the few vehicles plying the area. Otherwise, hiking is the main mode of reaching the rest of the municipality, particularly during the rainy season.

It thrives on agricultural crops as banana, corn, rice, coffee and vegetables. And while seemingly a bounty for a fortunate population, the streams and forests are the very culprits that clip off the livelihood opportunities of the people. For it is these streams where the very source of malaria, the female *Anopheles* mosquitoes, lay their eggs and it is the forests where they proliferate.

The research study “Malaria in Paracelis, Mt. Province: The Human Factor” was undertaken to 1) establish trends of malaria prevalence in terms of frequency and distribution through time (age, sex, educational attainment, residence, etc.); and 2) describe the beliefs and local practices in Paracelis regarding the acquisition, transmission, prevention, control and cure of malaria.

It also determined the people’s acceptability or attitudes towards the following control measures employed by the malaria control program of the Department of Health: house spraying, stream clearing, stream seeding, treatment and provision of bed nets and community health education. From these specific objectives, a blueprint was designed for an intervention program to address the current gaps and strengthen the malaria program.

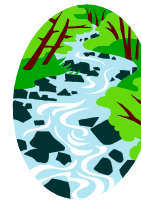
The Findings



The focus group discussions (FGDs) with residents of low, moderate and high endemic areas in Paracelis mirrors a situation rooted in folk philosophy and knowledge and plagued by misconceptions. Malaria, characterized by bouts of chills, fever and headache, is ascribed to exposure to the sun (heat), cold or rain. This association is sieved from the fact that the main concerns in the community are farming, fishing and hunting that accord them a daily relationship with the sun and the cold.

As a preventive measure, respondents advocate avoidance of exposure to sun and cold. This, of course, is much like an old adage that can be heeded not, considering the primary activities the residents engage in.

Additionally, evading the deadly *Anopheles* mosquito is not as viable for it relates to foregoing with routine activities in the community.



Malaria is also perceived to result from drinking polluted water or water from the spring where the mosquitoes have lain their eggs. Some trace the subsequent bouts of chills and fevers to the unknowing intake of spring water where mosquitoes have probably laid their eggs. The people remedy this by boiling the water they drink, especially during the rainy season (which is the peak season of the disease).

A revealing piece of data is the awareness that mosquitoes, in general, transmit malaria and that it can be transferred from an infected to a healthy person. However, they hardly link the bite and the disease. This is why most, except the Ilocanos, are ill at ease with the use of mosquito nets (a preventive measure espoused by the malaria control program). Further, bed net treatment and house spraying are not patronized for health reasons and, as a mistaken notion, because it attracts the mosquitoes. The malaria control team of Paracelis schedules spraying activities prior to the observed peak seasons of the disease (June and September). The association is that mosquito population increases during these spraying months, conveniently the mosquito peak seasons.

Other known modes of transmission based on observations and experience are: inhalation (it is airborne); body or sexual contact (it is communicable); blood donation; and heredity (these last two claimed to be doctor pronouncements).

In remote barangays where hiking is the only means of reaching places, the patient is "balled" in a hammock (i-bulig) and carried on the back. There are those who expire along the way. The medical ism – "where the road ends, malaria begins" – is rather unfortunate but most apt in the remote areas of Paracelis as is elsewhere.

For treatment, the residents resort to western or modern medication. The young and the old are familiar with doctor-prescribed anti-malarial drugs as chloroquine, quinine, fansidar, dimalar, atabrin, other injectables and antibiotics as cotrimoxazole and amoxicillin. Some of these (except for the antibiotics) are available and given free, although limited, at the Paracelis District Hospital or rural health units.

And, according to the doctors interviewed, even with a DOH directive for non-sale of these drugs over the counter, residents are able to purchase without prescription. This is one reason for the reported under- and over-dosage of patients; under-dosed because medication is stopped after relief is experienced and over-dosed because of over-eagerness to hasten treatment.

Those who are near the provincial hospital or the RHU opt to seek treatment in these facilities. Thus, the cases – confirmed or not – are recorded. In stark contrast, residents from far-flung areas of the municipality avail of medical treatment from medical facilities outside of Paracelis (either in Isabela or Kalinga) which are more accessible. Those who do not opt for medical treatment resort to the more available herbal plants in their surroundings, the more common of which include *dalipawen* or *puray* and *dangla*.

Other indigenous plants used are *sapal*, *subusob*, *paawit*, *parya*, *uggot ti uway*, *papaít*, *makabuhay*, *latang* and *albustra*. Leaves or bark of these plants are boiled and the brew is either drunk or used for bathing or steaming. There were claims of relief and eventual cure after encounters with the herbal medication. Some who take these in as frequent to hasten treatment say there is no over-dosage unlike in the intake of drugs.

Herbal medicines are an alternative when the ailment is perceived to be less severe and there is no need to bring the patient to the hospital. Additionally, herbals are used when malarial attacks occur at night and when there is no available vehicle to ferry the patient to the hospital. If the symptoms are not relieved and weakness results, the patient is then brought to the hospital. In remote barangays where hiking is the only means of reaching places, the patient is "balled" in a hammock (*i-bulig*) and carried on the back. There are those who expire along the way. The medical ism – "where the road ends malaria begins" – is rather unfortunate but most apt in the remote areas of Paracelis as is elsewhere.



Behind the innocence of these children lurks the risk of malaria.

These beliefs and practices of the residents of Paracelis somehow get in the way of breaking the vicious cycle of malaria. While they seek available medical help, medication ceases with the temporary relief that is mistakenly associated with wellness. The full course of the medication is, thus, interrupted and a relapse results. Members of the malaria control team even claim that, in some instances, the medication they give for cases needing immediate treatment are set aside in the hope that rituals or offerings will cure the disease.

Similarly, the use of a bed net, treated with chemicals or not, is deemed useless. They think that, even if they may be spared from the mosquito bite, they can still contract malaria from drinking contaminated water.

A control measure advocated by the malaria control team that seemed foreign to some is the clearing of streams of overgrowth and debris. This activity is meant to discourage the nesting habits of the malaria-carrying mosquitoes. A more familiar activity is stream seeding. A fish specie, called the "million" or larvivorous fish, is literally planted in streams purposely to devour the eggs laid by the mosquitoes. Unfortunately, these are hunted for table fare with an aside that the fish population will not decrease because, as the name suggests, there are a million of them.

Another control strategy is the provision of bed nets. A scheme that originally came with this involves a 40% counterpart by the recipient (with the remaining 60% shouldered by DOH). The larger share of the household is intended for use as a revolving fund to purchase more nets for the rest of the barangays. Much as the residents would like to avail of this, not everyone can because of financial constraints. In some barangays, there are not enough bed nets for distribution because the supply is not directly handed out to them. This is why suggestions are up for the modification of this distribution scheme.

A common request of the FGD participants is for a more vigorous health education and information campaign (HEIC). There was an expressed interest to learn more about the disease in any form of dissemination.



A daytime focus group discussion (FGD) at Amulong, Poblacion, Paracelis, Mt. Province



The Recommendations

Even as the malaria control program has been in place for quite some time financial constraints have set limitations to its activities. This contributes to the trail of problems as the lack of manpower and materials for its spraying activities, thus the erratic spraying schedules. The ineffective approach of the program's IEC component is mirrored in the simultaneous conduct of spraying activities and information campaigns (where only a minimal number of residents are gathered). Although probably meant to maximize time and manpower, community participation is stifled and not exploited to the fullest. Relatedly, information materials that could be of greater use in the community are found only in health establishments.

The research enumerates recommendations, based on its findings, namely: 1) to systematize a uniform and consistent recording system to enable maximum use of malaria data; 2) to strengthen the existing HEIC component of the malaria program; 3) to solicit multi-sectoral participation and collaboration in malaria control activities; 4) to mobilize and seek community participation to complement the lack of malaria personnel; 5) to ban over-the-counter sale of antimalarial drugs; 6) to interview malaria patients in their dialects such that an accurate history is established; and 7) to restore the use of referral slips. The study further recommends research on the following areas: 1) criteria used to judge severity of the disease and help-seeking behavior and multiple treatment; 2) local disease categories and illness terms as *chatangnga* or *babannag*; 3) phytochemical analysis of popular herbal medicines unearthed in the study; 4) health and environment of the people of Paracelis; and 5) the malaria parasite.

And, as an outgrowth, an intervention program has been drafted in partnership with the DIRFO-CAR. The program's goal is to fully exploit and, ultimately, sustain community participation in the control of malaria in Paracelis, Mt. Province

OTHER ACTIVITIES

The malaria project also undertook two other activities which, although unplanned, proved worthwhile.

The Sharing of Medical Notes

There was the session among doctors and the research team entitled "Round Table Discussion: A Sharing of Medical Notes." Conceived primarily as a sharing of notes on the disease, it was designed to compare the results (facts and myths) of the FGDs and the response of the doctors who are repeatedly approached by malaria patients from the different barangays of Paracelis.

From this, it was envisioned that the differing perceptions among the interviewees and even among the doctors involved would be resolved or put into perspective; thus, a better understanding of malaria - what it is and is not. The session, held 27 February 2000, was set in Tabuk, Kalinga because it is the area with the most doctors treating malaria patients from Paracelis.

Valuable information was unearthed during this session (refer to Cordillera Research Briefs, volume IV, no. 1, August 2000). Most important of all was the request of the doctors in attendance for malaria patients to indicate whether they are from an endemic area. This was to facilitate immediate treatment as the doctor would be aware of the patient's history. Similarly, the doctors chided each other to carefully trace the history of the patients (possibly in their dialects) who approach them - malaria patients or not.



Participants to the sharing of medical notes session (l-r): Ms. Charlita Mariano, Ms. Mary Ann Ladia, Dr. Inesita Javonillo, Dr. Amelia Miranda, Dr. Chandu Claver, Dr. Carolyn Almora and Dr. Jaime Almora.

Another information that surfaced was the need to closely monitor the treatment of malaria patients. There was an expressed concern for under- and over-dosage for reasons previously mentioned. One other problem facing doctors is toxicity due to self-medication. Some patients admit taking in more than what is normally prescribed in their eagerness to hasten healing.

Relatedly, this concern for self-medication of malaria patients is being magnified by the fact that antimalarial drugs are readily accessible through over-the-counter purchases.

The Malaria Forum and Poster-Making Contest

The second activity that the team undertook was the conduct of malaria forum and poster-making contest in three high schools in Paracelis held last 28-29, 2000. The schools involved were the Paracelis National High School; the Bacarri National Trade and Agricultural School; and the Butigue National High School.

It was the intention of the research team to contribute, no matter how small, to the malaria health education and information campaign (HEIC) in the area.

The poster-making contest was aimed to raise consciousness among the students in the secondary schools in Paracelis. It was hoped that the resulting posters will bring about a fresher understanding and outlook of the malaria disease from the point of view of a younger generation.

The activity, planned as a half-day affair for each school, was two-pronged: a malaria forum for a congregation of high schools students and the poster-making contest (to follow immediately afterwards) for 5 interested entries from the congregation. The research team planned to involve the youth in the community because it believes that, although still unrecognized and untapped, they are a potent group that can be mobilized, particularly for information campaigns in the area.



On the whole, the students equate a clean environment to over-all good health. Almost all of the prevention and control measures signified in the forum can be attributed to the environment-consciousness of the students: observe environmental sanitation, clean surroundings, make canals and compost pits, construct pig pens and toilet facilities, dispose of garbage properly, etc. This became even more obvious during the poster contest where most of the creations of the students revolved around an environmental theme.

This frame of mind, directed towards environment-consciousness, is a good take off point for future campaign programs on malaria (but this time to emphasize on stream-clearing, stream-seeding and other prevention/control activities).

Likewise, this can be a common denominator in community organizing for activities like tree planting (particularly of neem and eucalyptus trees, considered repelling to the *Anopheles* mosquito). Such activities for malaria control can then become a community effort that will not remain within the confines of the malaria control team alone (as viewed by some students).

Additionally, the preliminary results of this research have been presented in two other venues: 1) the DIRFO-CAR year-end assessment and planning session held last January 18, 2000; where a concise report, culled from the FGDs, was presented to malaria coordinators of Regions 1, 2, 3 and CAR; and 2) the DIRFO-CAR research dissemination forum held last April 11, 2000 where the results of FGD, round



table discussion and poster-making contest were presented to the hierarchy and health workers of CAR.

Other publication materials that have resulted from this research include: 1) the Cordillera Research Brief that summarizes the contents of the research; 2) a popular version of this Research Brief; 3) Cordillera Research Brief of the RTD with private physicians; 4) process documentation of the RTD and forum-poster contests in three Paracelis high schools; and 5) a photo-documentation of the activities undertaken during the course of the research.



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