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Malaria Update

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Dr. Bhim Acharya, Director of EDCC during "Orientation Program to physicians on Revised Malaria Treatment Protocol"

Orientations to Physicians

Save the Children-Global Fund in coordination with EDCC organized orientation program to physicians on 28th October 2016 at Grand Hotel, Kathmandu. The program was organized to make physicians from hospitals around the capital city aware about the revised treatment protocol for malaria. This program also focused on reporting treated malaria cases through these hospitals into the HMIS system via the respective DHO/DPHOs. The participating physicians were also made aware of the MDIS and the case reporting and investigation mechanism in place coordinated by EDCC nationally.

Altogether 42 participants attended the program with representation from renowned tertiary care centres in the capital including Manmohan Memorial Hospital, Kanti Children Hospital, TUTH-IOM, Nepal Police Hospital, Nepal Army Hospital, Nepal APF

Hospital, Sukraraj Tropical & Infectious Disease Hospital and Patan Academy of Health Sciences etc.

Mr. Badri Nath Jnawali, Surveillance Chief from EDCC shared the objective & overview of the program. He expected that the orientation program would be fruitful to update participants on malaria treatment protocol for the proper treatment of malaria disease. Dr. Basu Dev Pandey, Deputy DG/DoHS, presented the clinical perspective of uncomplicated and severe malaria. Similarly, Dr. Bhim Acharya, Director of EDCC debriefed on objectives of National Malaria Strategic Plan (2014- 2025). He presented on the general malaria scenario of Nepal, the population under the risk, vulnerability and ongoing activities to achieve elimination by 2025 as per the strategic plan. Dr. Suman Thapa, Technical Specialist from SCI presented on revised national malaria treatment protocol. The participants eagerly put forth their queries and got their expected response. At the end of the session, Ms. Jyoti Acharya, Co-chief Medical Technologist from NPHL presented on the laboratory aspects for the diagnosis of malaria disease.



Dr. Basu Dev Pandey during his presentation (left) and the participants

Internal Competency Assessment Workshop

Malaria Competency Assessment workshop was conducted from 21st to 24th August, 2016 at VBDRTC. The objective of this workshop was to enhance and assess internal competency and capacity of laboratory technicians/laboratory assistants in malaria microscopy so that they could effectively contribute to malaria elimination.

Altogether 13 participants (one participants from each districts; Ilam, Morang, Sunsari, Dhankuta, Sarlahi, Udaypur, Chitwan, Surkhet & Kailali, and 2 from each districts; Jhapa & Saptari) took part in the program. Through this workshop, it was expected to produce skilled microscopists to help diagnose malaria in the high burden areas and also assist in QA/QC of the collected slides.



Malaria Competency Assessment Workshop at VBDRTC



FCHV Orientation at Bankatawa PHC, Banke

Orientation on Global Fund Program under Red Book Budget

Epidemiology and Disease Control Division (EDCD) organized a two day orientation program with technical and financial support from Save the Children, Global Fund grant in Dhangadi, Kailali. Participants including Regional Health Director, District Public/Health Officers, Finance personnel and Store Keepers from Far-Western Regional Health Directorate (FWRHD), Doti and program districts; Kailali, Kancharpur & Dadeldhura took part in the workshop held at Hotel Devotee in Dhangadi.

The objective of the program was to make participants aware on Global Fund budget allocated under malaria program to the districts and regions.



Participants during the opening session of orientation program

FCHV Orientation Program

Orientation to FCHV was conducted in 18 VDCs of 7 districts; Bara, Sindhuli, Kapilbastu, Surkhet, Banke, Kailali & Kancharpur during this period. A total of 445 FCHVs who participated in the program were oriented on malaria disease. The objective of the program was to make the FCHVs be able to identify any suspected malaria positive cases in their community. These suspected cases will then be notified to the nearest health facility through SMS. Upon being notified, the health personnel/ lab personnel from the nearby health facility go and test the reported suspected fever cases through active case detection in the community itself. Coupons handed over by the FCHVs to the suspected fever cases in the community will then be collected by the investigating team and reports will then be forwarded to the districts.

The program focused on auditing process which orients the participants to spend allocated budget in correct headings with supporting documents. The program expected to make a focal person more accountable during the expenses of the budget with proper documentation.

School Health Program

During this period, school health programs were conducted in 30 schools of high & moderate risk VDCs across 9 districts; Ilam, Jhapa, Morang, Dhanusa, Rautahat, Rupandehi, Kapilbastu, Dang & Kailali. The program was conducted in coordination with malaria focal persons from the respective districts. Altogether 2,970 students received orientation and awareness class on malaria disease and preventive measures. This program expected to make the students responsible to prevent transmission of disease within their community through the dissemination of information from them to their family, relatives and the whole community.



School Health Program at Rangapur, Rautahat

Case Based and Foci Investigation

Case investigation and case finding along with the entomological surveillance was conducted in Shivanath-5, Baitadi on September 2016 by an Epidemiology team comprising of a Microbiologist, Vector Control Inspector (from EDCD), Research Officer, Lab Technician, District RRT focal person, Local Lab Assistant, and Vector Surveillance team from VBDRTC. In total 27 households were surveyed and out of 150 household members, 13 febrile cases (8.66%) were reported. All malaria cases confirmed by malaria microscopy were investigated and classified. All the cases were indigenous with no travel history within the defined incubation period and are found evident of the local transmission, supported by availability of established vectors *An. Fluviatilis* and *An. willmori* in high densities.

41 specimens collected from all febrile and 20% afebrile individuals were tested for RDT on site, blood smear preparation & microscopy as well as samples taken for PCR.



RDT testing did not show any positivity from the given specimens. However, in PCR run, conducted at VBDRTC, out of 41 specimens, 2 febrile cases (15.38%) were PV positive which were neither detected by RDT nor microscopy. All the cases investigated during investigation period were indigenous. Female groups were mostly affected, twice more than the number of males. Foci investigation of the territory also supported the status of residual active transmission. The sub-microscopic prevalence in the population from the given study was 4.88%.

Vulnerability and susceptibility (environmental factors for malaria transmission) in the areas provide clue to the continuous local transmission from last 3 years. Mean API of 3 years range from 17.67/1000 to 37.10/1000 very high compared to 0.10/1000 (National trend API) which enforces the immediate malariological interventions in the area.

As the study supported sub-microscopic prevalence in the population and findings of symptomatic but sub-microscopic reported by the case investigation was one of the major achievements of this study. The cases were promptly traced, treated and cured with Chloroquine and Primaquine as per the national treatment guideline. This experience opened up need and avenues for similar studies to be conducted in other areas where transmission is taking place every year.



Entomological Study

Entomological study was conducted in 3 different sites; Shivapur VDC of Kapilbastu, Sugarkhal VDC of Kailali, and Tulsichauda VDC of Dhanusa districts during this period. Before, the study was conducted in 4 different sites and will continue for total 20 sites in 2017 and 2018. The finding of the survey will help identify the major prevalent malaria vector species in the country, their geographical distribution, density and their biting habits (anthrophilic or zoophilic). The survey will also aid to understand the role of the vector mosquito in the dynamics of transmission, their behavior and seasonal prevalence.

Case Study:

Advantage of use of PCR in malaria diagnosis

A 32 years old male from Dadeldhura, had a travel history from Congo. He developed fever (reaching around 106°F) with rigor in 3 weeks after his arrival in Dadeldhura. He had no any other travel records within Nepal post-arrival from Congo.

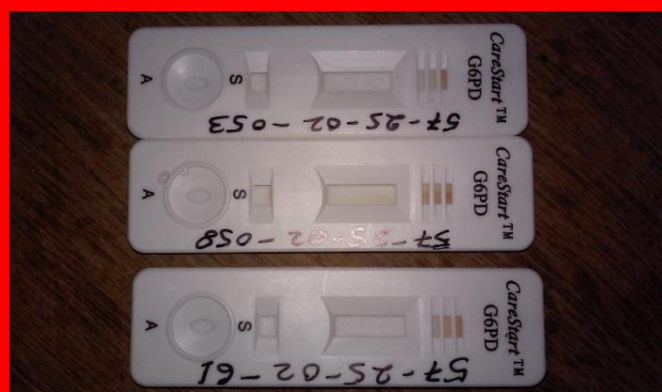
After one week of fever, he was diagnosed for PV malaria by microscopy and was treated with Chloroquine and Primaquine. However a PCR sample and slide of the same patient was sent to Vector Borne Disease Research Training Center (VBDRTC), Hetauda for further confirmation. Results of PCR, a highly sensitive and specific diagnostic tool, surprisingly showed that the case was PF positive not PV one. The person was followed up with ACT for the treatment after which the signs and symptoms disappeared and he fully recovered.

This example highlights the limitations of microscopy and even RDT (limitations include competency of the microscopists, the quality of slides prepared, availability of well-equipped lab facilities and the way RDT is done). Any form of suspicion can now be confirmed through PCR, which is now available at VBDRTC. Accurate diagnosis and prompt treatment as per the treatment protocol will essentially lead to appropriate cure and prevent further transmission and recurrences.

Relevant Glimpse of Program Activities



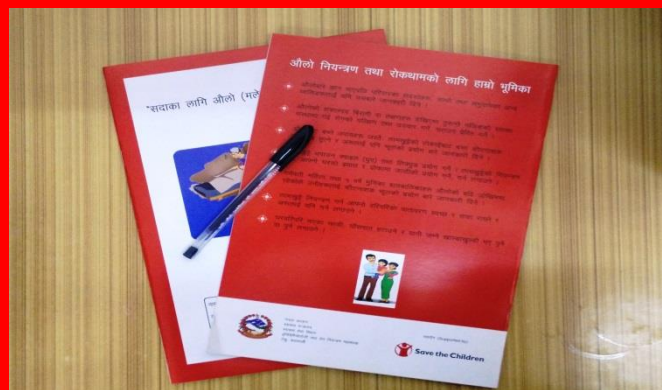
Case based investigation at Baramajhiya, Dhanusa



RDTs test result of G6PD deficient during the study



Piles of LLINs stored in warehouse for distribution



Developed materials with malaria related information for student

