COMMUNITY PARTNERSHIP IN VECTOR CONTROL FOR DENGUE

Partisipasi Masyarakat Dalam Pemberantasan Demam Berdarah

Susstriayu Nalim, Bambang Hartono, Sri Wuryaningsih and Suskamandi


Kata kunci: DBD, pencegahan-pemberantasan, pengorganisasian

INTRODUCTION

Dengue Hemorrhagic Fever has been reported since 1986 from Surabaya. It increased in recent years and presently many cities are endemic for DHF and outbreaks continue to happen (CDC, pers. comm.). Many efforts have been exerted to try elimination of the vector and prevention of this disease, nevertheless presently it is still increasing. The question arises, where have we gone wrong? Why are all the efforts not successful? As we ponder the existence of the vector, we realize that this vector is a faithful partner of man. Wherever man resides, so does this vector. Especially Aedes aegypti which is called the "elit mosquito". This mosquito likes to breed in clean water supplies, a vital necessity for man. Thus in the expansion of human habitation, without realizing, we are creating more and more breeding sites for this vector, and because of this phenomena, it is so difficult to control this vector. A new approach involving the community as our partners (Adams and Lin, 1998) is presently under investigation. In this approach the awareness and responsibility of certain community groups is stimulated. In Indonesia, the PKK (Family Welfare Education), an NGO yet workable under close supervision of the local Government (Stimulator of the PKK is the administrative head's wife, such as the Mayor's wife, the Regency head's wife etc) is used as a media to start the awareness program. This paper will describe the various activities and steps taken to start this program and most important to ensure the sustainability of this program in the community for the future.

Basic Concept for Periodical (Weekly) Inspection of Breeding Sites

The Government through the Health Department has long since promoted and suggested the 3 M (cleaning, covering, and burying of wasted containers). Many citizens practice this concept, and in many cities most water containers indoors are cleaned weekly or twice a week (according to the lifecycle of Aedes aegypti which needs one week to complete its cycle from egg to adult). The next question was, if citizens are conscientious enough to clean water containers weekly or even twice a week, why does the problem persist, and outbreaks of DHF continue to occur. The only answer to this phenomena is that people occasionally forget, and once we forget to clean once a week, the larvae will have become mosquitoes and ready for transmission of Dengue. To remediate this phenomena the slogan

* Peneliti pada Balai Penelitian Vektor dan Reservoir Penyakit, Badan Penelitian dan Pengembangan Kesrahatan
becomes Man creates breeding sites → Man inspects breeding sites weekly, to eliminate the chances of forgotten potential breeding sites which will produce adults. To ensure regular inspection by the community a system is sought to obtain sustainability in the inspection activities. This concept enhances the Health for All policy for the 21st century, where the community is urged to prevent many diseases by their own activities (Anonim, 1998).

Selection of Existing System to Promote and Sustain Inspection of Breeding Sites

A system presently existing and used for many community activities is the Family Welfare Education (PKK), a system occurring all over Indonesia, once initiated by the Department of Interior Minister's wife (see figure 1). This system has gained recognition internationally and has received an award from the United Nations. It is an NGO, but functions through the existing infrastructure, through the wives of the various officials. The highest PKK promoter in the various administrative units is the Head of the states (Mayor, Regent, etc.) These in turn are responsible to higher authorities (The highest being the President's wife). The smallest unit of this system is the Dasawisma, which contains of 10 to 25 households. It is this particular system that we selected for the periodical inspections in each unit. The basic concept is that each housewife inspects their neighborhood weekly. With 25 houses their turn would be once in 25 weeks or once in 12 weeks if 2 women inspect at a time. The Rt is asked to coordinate the various Dasawisma's in his territory, and decides the weekly schedule for the various Dasawisma's. The cadres will function as supervisors and stimulators.

Informing The Community About The Basic Concept

Meetings were conducted to inform and encourage the community to provide a Dengue-free environment for themselves. Emphasis was made on the fact that unaware the community is actually generating their own problem by keeping water containers in their respective houses and are therefore encouraged to inspect their environment weekly. These meetings were conducted by Rotary Club members, Municipal Health personnel, members of the PKK, and officials from the Vector Control Research Station.

Meetings were scheduled as follows:
1. The first meeting was held with the Mayor's wife who invited the infrastructure (District heads and wife, District's office infrastructure (LKMD, etc) DHF working groups (POKJA DBD) and other district officials.
2. Further meetings were scheduled for each village, where the village infrastructures were informed about their responsibilities in keeping Ae. aegypti free environment in their respective units. The various village head's wives stressed the cadres in the implementation of the periodical inspection. During these meetings a demonstration was conducted by showing the community the adult, larvae and eggs of Ae. aegypti.
3. Meetings were also held for schools, where little doctors (dokter kecil) are asked to inspect their respective schools on "Clean Friday" or Clean Saturday.

The Department of Education is asked to participate in this campaign by including the larvae parameter in their criteria for clean schools. Monthly reports from schools are submitted to the school inspector from the Department of Education.

Evaluation of The Implementation on The Weekly Picket

A questionnaire was distributed 1 year after the initiation of the weekly inspection activities.
Evaluation of maintenance in inspection activities.

The first six months showed the community's interest. Cadres were active implementing the inspection in their respective regions. It was suggested that housewives collaboratively in turns, rather than cadres, would implement the inspection activities. Cadres should be responsible for supervising the activities and only inspect if their turn (as housewife) would come. Nevertheless, in many villages (majority) the head of the Dasawisma's would request the cadres to conduct the periodical inspection. Results of the questionnaires showed that in villages where housewives in turns routinely inspected their neighborhoods, the weekly inspection still continued after 1 year. In areas where the cadres were responsible for the inspection, the activity has ceased. In some villages the inspection was conducted as time was available such as one month once, two weeks once etc.

Problems encountered in inspecting houses

In many areas (shops, high officials homes, housing complexes, real estates) the inspectors were rejected entrance to the houses, especially in shop areas. If inspected by the health department or other health officials high container indexes were revealed. In many estates, houses were purchased for investment, and many were not inhabited and could not be inspected. In certain elite residential areas, dogs would be the constraint in entering the house.

Remedies Sought to Ensure Maintenance of The Inspection Routine.

1. Establishment of monitoring system to evaluate continued inspection activities

The local infrastructure is requested to assist in the existence of the inspection activities. A participation map is made for each village. This map contains the number of Rw, Rt and Dasawisma's in the village. The village head or wife is asked to update the inspection activities monthly on the map. A form is made for the Rw to monitor the activities of the Dasawisma in their respective areas. This information is reported to the village head's wife during their monthly meetings. Data on the map will show the frequencies of each Dasawisma in their inspection activities. This way the village head knows what the situation is, and is hoped to stimulate areas with less participation.

2. Establishment of a system to cover areas with difficult entrance to their houses

A special system is established (organized by Rotary) which forces the group of houses difficult to inspect to pay a monthly fee. The organization will use the fees to pay for a surveyor, who will inspect the houses weekly. This surveyor is provided with an identity card which is known to the house owners. In Estate areas, the village head is asked to send out a leaflet to be posted on the closed doors of the houses. This leaflet will read “Please empty your water containers when you leave. Make sure no waterholding containers are in your garden”. Neighbors will be asked to inform their neighbors when they visit their houses.

3. Establishment of a system to sustain forms and equipment once provided by Rotary

Rotary has loaned some funds to become a revolving fund for the continuation of the inspection activities. The money is loaned to the community and the interest obtained through the loan will be used for the expenses once provided by Rotary. Supervision is still active at the moment and it is hoped that this activity will become a habit of the people in the future. This program will be extended to other cities and the visits from observers/inhabitants from other cities are indirectly a system to continue to stimulate the program.

4. Impact on DHF cases in Purwokerto

Table 1 and figure 1 illustrate the impact of this program on the DHF cases in Purwokerto city. We obtained the data for two other cities, namely, Kebumen and
Salatiga city. The drop in DHF cases from 1996 – 2000 in the three cities shows the difference of case distribution throughout the 5 years. A significant decrease is evident in Purwokerto city as compared to the two other cities where no intervention activities were conducted.

SUMMARY

1. A inspection schedule has been established for the Desawisma to inspect their neighborhoods weekly as a routine activity.
2. To sustain these activities the village head has been asked to participate in the monitoring of this activity.
3. A participation map has been made for each village and the village head has to update the information map every month with information provided by the Rw’s.
4. A system has been organized by Rotary to cope with areas difficult to inspect. Leaflets are issued to empty houses in estates.
5. A revolving funds loan from Rotary will fulfill the needs for expenses concurred in relation to the inspection program.
6. The weekly inspection program has reduced DHF transmission in Purwokerto city.

REFERENCES


| Table 1: Dengue Hemorrhagic Fever cases (Number of patients) |
|-------------------|----------------|----------------|----------------|----------------|
| Purwokerto        | 114  | 103  | 87   | 4    | 18   |
| Kebumen           | 33   | 12   | 19   | 7    | 25   |
| Salatiga          | 37   | 33   | 66   | 9    | 51   |

Figure 1. Dengue Hemorrhagic Fever cases (Number of patients)
Figure 2
Figure 3.

PARTICIPATION MAP TO MONITOR DASAWISMA ACTIVITY BY VILLAGE OFFICIALS

PETA PARTISIPASI Pemantauan Dasawisma
Kelurahan: _____________________
Kecamatan: _____________________
Kota Administratif Purwokerto
Tahun: _______________________

<table>
<thead>
<tr>
<th>Bulan</th>
<th>Angka (%)</th>
<th>Warna</th>
</tr>
</thead>
<tbody>
<tr>
<td>Januari</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Februari</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maret</td>
<td></td>
<td></td>
</tr>
<tr>
<td>April</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mei</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juni</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juli</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agustus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>September</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oktober</td>
<td></td>
<td></td>
</tr>
<tr>
<td>November</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desember</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>