



Analysis of Management Control of Dengue Fever (DHF)

1. Rahmi Pramulia F
2. Fanny Permata Ferisa
3. Roza Asnel
4. Desi Nindya Kirana

Received 29th Oct 2021,
Accepted 27th Nov 2021,
Online 2ndth Dec 2021

^{1,2,3,4,5} Public Health Program of STIKes
Payung Negeri Pekanbaru – Indonesia

Annotation: Dengue Hemorrhagic Fever (DHF) is an acute febrile disease found in the tropics, this disease is caused by one of four viral serotypes of the genus *Flavivirus*, family *Flaviviridae*. Each serotype is sufficiently distinct that there is no cross-protection and outbreaks caused by multiple serotypes (hyperendemicity) may occur. The purpose of this study was to determine the management of DHF control at Payung Sekaki Health Center Pekanbaru City in 2020. This study used a descriptive qualitative research type. The instruments used in data collection in this study were interview guides, observation sheets, recording devices, cameras, and stationery. In this study the data that has been collected will be recorded in one document, then the data is made in the form of a descriptive narrative. The results of this study indicate that it is necessary to add several human resources in the fields of Epidemiology and Surveillance and need to carry out more rigorous evaluation and supervision. For implementation, it is quite good and implemented as it should be. This study recommends improving the quality of DHF control management so that it runs better and that there will be a decrease in dengue cases at Payung Sekaki Health Center Pekanbaru City.

Key words: Analysis of DHF Control Management, Planning, Implementation, Evaluation.

INTRODUCTION

An infectious disease which is a public health problem, namely DHF is one of the deadly diseases that attack humans, this infection is caused by the dengue virus from the genus *Flavivirus*, family *Flaviviridae*. DHF is transmitted to humans through the bite of a dengue fever mosquito (*Aedes aegypti*) infected with the dengue virus (Candra, 2011).

Research results (Wang, 2020) explained that the incidence of DHF in the Philippines is most often caused by plasma leakage which is the main pathophysiological feature that distinguishes DHF from DF. Severe plasma leakage can lead to hypovolemic shock. Various factors are thought to influence the disease and its severity. Virus virulence, pre-existing dengue antibodies, immune dysregulation,

lipid changes and host genetic susceptibility are factors reported to correlate with the development of DHF.

The results of research by (Respati, 2017) DHF cases in one of the cities in Indonesia, namely Bandung City, showed an increase with a fluctuating hyperendemic year pattern, especially in 2009, 2012, and 2013 which was assessed by mapping (spatial distribution), DHF cases would be easier monitored so that prevention programs can be focused on areas with a high incidence.

Based on data from the Ministry of Health of the Republic of Indonesia, the Number of DHF Cases each Province in Indonesia in 2017 showed that the number of cases was 68,407, a significant decrease from 2016 as many as 204,171 cases. While Riau alone ranked 12th as many as 1,928 cases. Meanwhile, based on data from the Pekanbaru Health Office, the number of cases of DHF in Pekanbaru City until the 42nd Sunday of 2019 was 360 cases, a significant decrease from 2016 as many as 873 cases, in 2017 as many as 598 cases, and in 2018 as many as 358. case. Based on data from the Health Profile of the Public Health Centers in Pekanbaru City from 2017 to 2019, out of 21 Puskesmas in Pekanbaru City found five health centers that had the highest number of cases of DHF, namely Payung Sekaki Health Center as many as 185 cases, Harapan Raya as many as 132 cases, and Garuda as many as 98 cases. While specifically for the 42nd Sunday of 2019 the Payung Sekaki Health Center with the highest number of cases was 66 cases (Bappenas, 2018).

Related research conducted by (Suhaimah, 2018) at the Medan Johor Health Center regarding the Management of the DHF Control Program stated that the overall planning and implementation had begun to be implemented as evidenced by the reduction in morbidity, and the program implementation process was carried out following With SOPs, management is said to be not as good as a whole such as planning where several stages have not been carried out, namely problem formulation and alternative problem solving, implementation of program activities which are mostly carried out when cases occur than before and are not by Puskesmas SOPs such as urbanization and counseling that not by the planning, and the supervision carried out on the program is not yet strict, only looking at the reports that are made (Novita, 2015).

Indonesia has the main activities of the DHF control program including epidemiological surveillance, case finding and management, vector control, increasing community participation, early warning system (SKD), extraordinary event management (KLB), counseling, partnerships, capacity building, research, survey, monitoring, and evaluation. However, these various activities have not given the expected results, this indicates that other efforts are still needed to improve the program in controlling DHF (Munif, 2013). The purpose of this study was to analyze the management of the DHF control program at the Payung Sekaki Health Center, Payung Sekaki Sub-district, Pekanbaru City in 2020.

METHODS

This research uses the descriptive qualitative method. The descriptive method is called Participant-Observation because the researcher himself must be the main instrument in collecting data by directly observing the object he is studying. This method is by conducting in-depth interviews, observation methods (especially the participatory method (Atmadja, 2013). This study intends to determine the Management Analysis of DHF Control at Payung Sekaki Health Center Pekanbaru City in 2020.

This research was carried out in the work area of the Pekanbaru City Health Office, which based on the Pekanbaru City Health Profile in 2019, the finding of the highest cases of DHF was at Payung Sekaki Health Center Pekanbaru City. In this study, the research subject becomes an informant who will provide the necessary information during the research process. Research information in qualitative includes three kinds, namely:

1. Key informants, namely those who know and have the various basic information needed in research. The key information in this research is the person in charge of the DHF program as well as the person in charge of the environmental health sector, amounting to 1 person.
2. The main informants, namely those who are directly involved in the social interactions studied. The main informant in this study was the Head of the Payung Sekaki Health Center Pekanbaru City.
3. Supporting informants, namely those who can provide information even though they are not directly involved in the social interactions studied. Additional interactions are Jumantik cadres in the Payung Sekaki Health Center area as many as 3 people.

The instruments used to support the data collection process were the researcher himself as the main instrument, the informant as a resource person, interview guidelines and observation sheets, a tape recorder as an interview recording tool, a camera as a shooting tool, writing instruments aimed at recording things that might be possible needed in conducting research.

The data collection procedure in this study was carried out by interacting, asking, and listening to what was conveyed orally by the respondent or participants using the unstructured interview method. This method is an interview conducted with the freedom for the interviewer to develop questions without being bound by a list of questions. The interviewer can develop questions according to the participants' previous answers. So this method looks more flexible and allows to get more in-depth data.

Analysis of the data used in this research is a qualitative technique, namely to analyze the data obtained from interviews, observation sheets, documentation, and tracing of related documents. Therefore, data processing in this research uses data triangulation.

Results and Discussions

Planning Interview Results

What is the planning description of the availability of human resources (HR), facilities and infrastructure, and funding at the Payung Sekaki Health Center?

Incidentally, the person who has to hold the DHF program must be an Epidemiologist or Surveillance person, I happen to be not an epid person so I am only an environmental health officer who is empowered to handle the DHF program, so if there are no resources, there is no epid person here with our working area. not bad so I work double of environmental health, and P2. For the funds, we take the funds from the Health Operational Assistance (BOK) from the center but it is at the Puskesmas. We take the money from there. We take the funds for epidemiological investigations, we can budget there, but we can't budget for everything. I mean, it doesn't fit the case like that, while if there are new cases in the fogging, it's the service. In terms of infrastructure, if fogging is done, we don't do fogging, those who do fog are official people. That's the facilities and infrastructure there, right up to the human resources, the availability of the medicine, right? In the Puskesmas that is divided from the service, such as abate, we have it, for counseling we have reciprocity. As for the form of planning, if we are at the Puskesmas, hmm, what is the name, hmm, our plans are according to the case. For example, the highest case is where so we plan to focus on it for counseling, for socialization to the community. That's it. like 2018 we are the highest in the eastern new anchor so we move 2019 we enter it into the eastern new anchor. For example, our 2019 marriage of cases is the highest in West New Harbor. Our plan in 2020 is that we include the socialization of one house, one Jumantik, to West New Harbor. Based on the data of the previous year the highest (Key Informants).

The availability of human resources is sufficient, we at the Puskesmas have a target area, incidentally, at the Umbrella Health Center, there are 7 sub-districts. There is a coordinating team for each doctor,

then there is a coordinating midwife as well. For the PJ or the person in charge of the health care unit who holds DHF, one of them is also e. what is the name, this is enough, yes, there have been enough things to anticipate what happened in the DHF case. Ee, as well as the health promotion program, we also have counseled both inside and outside the building. But it is not easy to change people's behavior. We need what it's called, we need the involvement of all parties. So if the human resources are sufficient, maybe one more environmental health officer can be added because the area is quite large, ee human resources for sanitarians or health care only one person because there is no epid yet. If we each have our funds from the center, the funds are called Health Operational Assistance (BOK). then from the service itself, there may be from the APBD, the Pekanbaru City government. And also maybe there are from the center I don't understand, huh. Then yes, if for operations that directly go into the field, they use BOK funds. Infrastructure facilities, for example, if the fogging tool is not fogging, yes, because the health department carries out all the tools and materials at the Health Office because there are procedures that must be followed, we cannot do all the fogging ourselves because it is toxic, then for official vehicles, there may be if we may lack each private vehicle. If it's a form of planning, so we'll look at the previous case in the previous year, in the previous months we held counseling where a lot of people gathered, then also see. what's the name of that we also put in the proposed activity, besides that, if there are cases there is surveillance for Epid investigation The case report that we investigated first, we reported the case to the health office for follow-up (Key Informants).

Based on the information from the informant that the planning in the field of human resources is sufficient but there is no special section for Epidemiology or Surveillance, adequate facilities and infrastructure are provided from the Health Office to the Puskesmas.

If the human resources are sufficient, only if it is for the people, they may not care. Because if you go down to the field it's only for someone who is sick.. that's all.. but when you go out in the field, sometimes people who come from the health center come down to the field, haa everything goes down. If the funds are only social, yes, but if they are given an honorarium, Alhamdulillah hahaha... that's the awareness of each person, you know, but if you are given an honorarium, Alhamdulillah hahaha... Facilities and infrastructure are like vehicles, right? If it's the vehicle itself, we will get an honorarium so we can buy oil later, hahaha, if we already have the equipment from the Puskesmas (Supplementary Informant 1)

Based on the information from the informant, the planning in the field of human resources in the Jumantik section is sufficient, only the participation of the community is lacking.

While the results of previous studies from the results of the (Wibowo, 2019) regarding the Impact Evaluation Of Dengue Hemorrhagic Fever Control Program In Tembalang District, Semarang City, it was found that the problem of DHF is the lack of health surveillance officers (Gasurkes), the community does not have the awareness to do PSN, there is no schedule routine larva inspection (PJR) activities in the community, the low larva-free rate (ABJ).

HR in my place, we are the only two cadres, one more only, actually, it's a bit lacking, if it's the two of us, at least 3 or 4 people, sometimes suddenly there are people, I just know that LBT is the most populated, people's awareness to cleaning the house, paret, sometimes in the RT here, it's good there, it's okay to fit together, right, that's what's hard. If it's just the two of you, if it's possible in 1 RT, there's 1 cadre so it's nice to share it.. If there are funds, yes.. if you say there is an honorarium, it's there, but what matters is we have a lot of social activities the honorarium is sufficient it's below standard, but we consider it social. If it's facilities and infrastructure, Hmm... I'm also new here. like the old one, like Mrs. Sri, she said it was sufficient... the standard... (Supplementary Informant 2).

Based on the information from the informant, the planning in the field of HR in JUMANTIK is lacking, because there are only two of them in the area.

In terms of human resources, it is sufficient, but if there are additions, the better so that the work can be completed faster, right? It's an honor if there is, just consider it social. If there are facilities and infrastructure, hmm... if they are there, it's enough, like a flashlight to see mosquito larvae, if for example there are larvae, we'll let you know right away... then if it's a private vehicle, for infrastructure facilities, all activities are at the PUSKESMAS (Informant Additional 3).

Based on the information from the informant, the planning in the field of HR in the JUMANTIK section is sufficient, but if there are additions, it will be even better so that tasks and activities can be completed more quickly.

Based on the results of observations and in-depth interviews about planning by researchers, it can be concluded that in terms of numbers for the availability of human resources as program implementers, the Puskesmas has 1 human resource for the DHF disease control program which doubles as Environmental Health, and does not have a special section on Epidemiology or Surveillance. To carry out implementing activities assisted by other health workers such as doctors, midwives, and assisted across sectors from the Health Office and Jumantik cadres. The Epidemiology or Surveillance Section is very important at least as a special fogging companion and assisting in PSN or counseling to carry out its duties and responsibilities optimally effectively and efficiently and can focus more on one that is handled by HR SOPs for extension workers, PSN and epidemiological investigations or assistants fogging according to SOP. Human resources are the main driving force that is needed in every program that will be implemented. The availability of human resources for personnel in the DHF disease control program is still not sufficient in terms of small numbers because only 1 person is carrying out dual duties and responsibilities. Dengue Fever Control (P2DBD) ideally has an educational background by (PPRI, 1996) article 2 concerning health workers, which reads that public health workers include health epidemiologists, health entomologists, health microbiologists, health educators, health administrators, and sanitarians. There are 4 people involved in the P2DBD program at the Puskesmas, namely the coordinator, surveillance staff, sanitarians, and PE implementers (Anis, 2018). The planning stage of the Puskesmas itself is good because planning for the implementation of the Puskesmas program has the planning of action (POA) in the program so that it can know what will be done, it can be concluded, the planning of the DHF disease control program is quite good because all stages are carried out, such as situation analysis, formulation Problems and alternative problem-solving by health planning theory have several steps in the preparation process including carrying out situation analysis, identifying problems, determining program objectives, reviewing program barriers and weaknesses, and preparing operational work plans (RKO) (Suhaimah, 2018).

Implementation Interview Results

What are the forms of the implementation of dengue hemorrhagic fever control at the Payung Sekaki Health Center?

In the process of implementing the activities, there are counseling, PSN, Fogging, PE, that's it... well if our counseling inside and outside the building like in the morning is scheduled, for example, this is about KIA the next day about Kesling tomorrow about DHF, about what it's rolling out. If we do it outside the building, as in the village activities, we have also socialized it. Do we also quote at posyandu-posyandu who is the posyandu, right before doing it? Our posyandu activities must have counseled with the community first, we can insert the material there first. Then there is PSN, for PSN we only mobilize the community, such as to Mr. RT Mr. RW to do cooperation. For PE activities, it is according to the case, as we have the S0 format, the name is from the hospital. If the patient states that the patient is a DHF patient. Based on the S0 format, we will come to the Puskesmas from the villages

to the Puskesmas or from the RT pack who delivers to the Puskesmas, or from the office that goes to the Puskesmas, from there we will go directly to the field. There is fogging, if there is a new fogging activity from the health office based on a report from the Puskesmas, if an old person comes down but he confirms, this is the address, what is it, where is the person ready in the morning or afternoon. But we don't go anymore because we have given the report. Because there are special people there, what's special for korlap. field coordinator in particular (Key Informants).

Based on the information from the informant, the implementation has been carried out well, from conducting counseling, PSN, fogging, PE, and others.

There are many implementations, such as counseling, fogging if there is a case, right, seen from PE, for example in PSN. implement 3M+ (Key Informants).

Based on the information from the informant, the implementation has been carried out well, from conducting counseling, PSN, fogging, PE, and others.

Implementation is always involved, such as counseling, PSN. We sometimes provide counseling at the social service, wired, then at the posyandu, at the PKK social gathering, in the sub-district, we are always told that such coordination is always there, before going to the field we always coordinate first with the Public health center. sometimes people's awareness is lacking and they don't want to open the door, sometimes they think they are asking for donations hahaha especially when there are dogs, sometimes they are chased by dogs. Then sometimes they feel that their house is dirty so they don't want him, that's our obstacle even though we just want to socialize it, right (Supplementary Informant 1).

Based on the information from the informant that the implementation has been done well, Jumantik is always involved in the activities of the Puskesmas from conducting counseling, PSN, Fogging, PE, and others. Based on the results of observations and in-depth interviews about the implementation by researchers, it can be concluded that all forms of Dengue Hemorrhagic Fever control have been carried out such as counseling, fogging, PSN, and PE, only that the community itself does not participate in DHF activities. Coordination between the Puskesmas and the Health Office, with the community such as RT heads, RT heads, or complex heads, as well as Jumantik cadres, has also been going well, coordination is carried out through WA, or by telephone with the community such as RT/RW heads as well as Jumantik cadres. for the program to run properly. Coordination in the process of implementing the DHF control program is needed because Puskesmas also need cooperation with the health office because fogging is carried out by the health office for reporting DHF cases, in addition, to quickly responding to problems from DHF cases that occur across programs and sectors are also needed, Puskesmas usually coordinate through mobile phones by contacting the health office, Jumantik cadres, and being contacted by the hospital to inform patients with dengue fever who are in the working area of the Puskesmas. Coordination can be done through social media, namely SMS and WhatsApp/WA.

Evaluation Interview Results

What kind of supervision is carried out in the management of the dengue hemorrhagic fever control program at the Payung Sekaki Health Center?

Supervision is only coordinated, for example, this is a case from here, please immediately conduct a survey... like this..., just be monitored like that, we have a group or group form, so people share it right away, wait for the report, we will give it back there. So he can check from the results of the existing SO which we have handled which ones have not. Later, if we don't handle it, why will he say if this is please put it in a survey or PE (Key Informant).

Based on the information from the informant, the evaluation/supervision has been carried out well by coordinating from the Health Office to the Puskesmas.

There is supervision, yes, we invite the community to train the community for what to be a Jumantik in their respective homes... that's all because this is community empowerment they have to understand that it's called empowerment, there are no facilities and infrastructure or funds because of its nature, we want the community to be aware of that, not because new funds are moving, while who wants to get sick, we should have the awareness that we want to be invited, so we have trained good people to make good leaf trap as a mass Jumantik at home each RT is the coordinator then he has to report to the RW, the RW reports it to the Puskesmas like that has been trained from the Ministry of Health as well, there is an example in RW 7 Labuh Baru Timur, so I want it to be like that, right? it's a bit difficult to move the community to want to move always later k When he returned he asked for fogging even though he had been told that fogging was poison (Main Informant).

Based on the information from the informant, the evaluation/supervision has been carried out well by coordinating from the Health Office to the Puskesmas and from the Puskesmas to the community, although it is constrained by the community itself.

If the supervision is always there, it's the deck, it's always controlled by Mrs. Via, especially by Mrs. Via, that's the best. (Supplementary Informant 1).

If there is supervision from the Puskesmas, sometimes I also as an RW supervise like wild fogging, yesterday there was wild fogging, I immediately went down and then we kicked it out because if there is fog, the Puskesmas will always tell us, right, you can't just do it right away. For example, fogging service people also come down at the Puskesmas, always call me if there is fogging (Supplementary Informant 2).

If there is supervision, the same as bu via (Additional Informant 3)

Based on the information from the additional informants, the evaluation/supervision has been carried out quite well from the Puskesmas.

Based on the results of observations and in-depth interviews about the evaluation by researchers, it can be concluded that an evaluation with supervision from the Health Office to the Puskesmas has been carried out by conducting an assessment, but it is less stringent because there are only several forms of coordination such as telephone or WA, if there are cases that must be followed up by looking at only reports of DHF sufferers, there should be internal monitoring of the DHF disease control program at the Puskesmas, carried out by the Health Office which more closely examines the programs carried out by the Puskesmas while external supervision is carried out by the health office carried out by the head of the P2P DHF division who oversees what programs are running that have already been implemented. carried out by the health center. The supervision of the Puskesmas reports everything and the department sees and supervises what is reported by the Puskesmas in the DHF disease control program. From this research, it can be seen that monitoring or supervision is needed so that the program can run well by the operational guidelines, technical guidelines, SOPs, and orders given by the head of the Puskesmas for the person in charge of the program in carrying out the implementation of the activities that have been determined. However, not all Puskesmas carry out and receive good supervision with technical assistance from the city health office, its staff, and even from the Puskesmas itself.

CONCLUSIONS

Management of DHF control at Payung Sekaki Health Center Pekanbaru City is quite good, although there is no special HR department for Epidemiology or Surveillance that needs to be added, the activities that have been carried out consist of counseling, PE, fogging, and PSN. The planning process

at the Payung Sekaki Public Health Center in Pekanbaru as a whole is still not optimal because of the human resources that need to be added to 4 people at the Puskesmas with the necessary qualifications for Epidemiology, Surveillance, and fogging officers or fogging assistants, HR training that needs to be socialized so that the implementation process activities of the DHF disease control program can run effectively and efficiently. The implementation process is quite good from conducting PSN counseling, fogging, and PE, it's just that the awareness and participation of some of the communities still lacking. Evaluation using supervision is said to be quite good as a whole but less stringent because only in the form of coordination by telephone or WA there should be better supervision of the DHF disease control program at the Health Center carried out by the Health Office.

ACKNOWLEDGMENTS

To the Supervisors and Examiners who have provided guidance, motivation, and direction in the making of this thesis. To the Head of Public Health Center, Program Holder, and JUMANTIK person who have assisted in the data collection process. The entire academic community of the public health science study program of STIKes Payung Negeri Pekanbaru – Indonesia.

References

1. Anis, F. K. . (2018). Evaluasi Pelaksanaan Program Pengendalian Penyakit Demam Berdarah Dengue (P2Dbd) Di Puskesmas Mojosongo Kabupaten Boyolali Tahun 2018. *Jurnal Kesehatan Masyarakat (e-Journal)*, 6(5), 13–25.
2. Atmadja, A. T. (2013). Pergulatan metodologi dan penelitian kualitatif dalam ranah ilmu akuntansi. *Jurnal Akuntansi Profesi*, 3(2), 122–141.
3. Bappenas. (2018). Penguatan Pelayanan Kesehatan Dasar di Puskemas, 201.
4. Candra, A. (2011). Dengue Hemorrhagic Fever Epidemiology, Pathogenesis, and Its Transmission Risk Factors. *Aspirator: Journal of Vector Borne Diseases Studies*, 2(2), 110–119.
5. Munif, A., Musadad, D. A., & Kasnodiharjo, K. (2013). Intervention Model of Dengue Hemorrhagic Fever Control in Indramayu District, Jawa Barat. *Jurnal Ekologi Kesehatan*, 12(1), 253–268.
6. Novita, Rice, and K. K. (2015). SISTEM INFORMASI PEMETAAN DAERAH TERJANGKIT DEMAM BERDARAH DENGUE (DBD) WILAYAH KOTA PEKANBARU (STUDI KASUS: DINAS KESEHATAN KOTA PEKANBARU). *Jurnal Ilmiah Rekayasa Dan Manajemen Sistem Informasi*, 1(1), 44–48.
7. PPRI. (1996). Peraturan Pemerintah (PP) No. 32 Tahun 1996 tentang Tenaga Kesehatan.
8. Respati Titik, Ardini Raksanagara, Henni Djuhaeni, A. S. (2017). Spatial Distribution of Dengue Hemorrhagic Fever (DHF) in Urban Setting of Bandung City. *Jurnal Global Medical Dan Health Communication*, 5(3).
9. Suhaimah, L. O. N. (2018). Manajemen Program Pengendalian Penyakit Demam Berdarah Dengue di Puskesmas Medan Johor Kecamatan Medan Johor Tahun 2018.
10. Wang Wen-Hung, Aspiro Nayim Urbina, Max R. Chang, Wanchai Assavalapsakul, Po-Liang Lu, Yen-Hsu Chen, S.-F. W. (2020). Dengue hemorrhagic fever – A systemic literature review of current perspectives on pathogenesis, prevention and control. *Journal of Microbiology, Immunology and Infection*, 53(6 December), 963–978.
11. Wibowo Rizky Arvianto, D. L. (2019). Impact Evaluation Of Dengue Hemorrhagic Fever Control Program In Tembalang District, Semarang City. *Journal of Public Policy and Management Review*, 8(4).