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Rustam Adjie Rochmat

Behavior of Civil Society in Combating Larva of Aedes aegypti

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BEHAVIOR OF CIVIL SOCIETY IN COMBATING
Larva of *Aedes aegypti*

Author:
Dr.H.Rustam Aji Rochmat, SKp., M.Kes.

FOREWORD

Praise be to God who has given his favor and guidance so that I can finish a scientific paper entitled: ".PERILAKU SOCIETY IN COMBATINGFlick Aedes aegypti "
This book author interchanges to increase public knowledge and the student, who Measa difficult to get a book on: BEHAVIOR OF CIVIL SOCIETY IN COMBATINGLarva of Aedes aegypti
, That lead to insight into public health and environmental health.
This book emphasizes how people's behavior in preventing dengue fever and keep the environment around the house to keep avoid mosquito Aedes aegypti.
In this moment I would like to thank especially on my wife Rita Yanti, who patiently and unfeigned assisting in this life. In this occasion the authors deliver to thank:
1. The Ministry of Health of the Republic of Indonesia Jakarta
2. The Director of Health Polytechnic Bengkulu its board.
3. Regent / Vice Regent of Rejang Lebong its board.
Not to forget the author would like to thank, encouragement of life and entertainers heart, especially:
1.Kedua my old man who had given birth, guiding and raising me, namely that I respect: My Father H.Sueb Rochmat (Alm) and My Mother Hj.Siti Sa'adah (Almh).
2. The eldest son (Sherly Ratih Santi Frichesarius Aji, SKM) and son (Ibrahim Efendi, SH) and: Shultan Ali Aji Alkahfi (grandson of the first) and Ghanniyah Shafiqah Felicia (granddaughter of the first).
3. Youngest Son (Roro Ajhie Ayuningtyas, AMKeb) and daughter (Eko Novianto) with: Kirana Qordelia Maheswari (granddaughter to two).
4. Along All the sisters, in-laws and nephew as well as relatives of the extended family My Father H.Sueb Rochmat (Alm) and My Mother Hj.Siti Sa'adah (Almh)
The author hopes that this book is useful for the reader. Hopefully this book can make a highly valuable deeds, and may Allah Almighty always be with us. Amin Amin Ya Robbal Alamin.
Curup-Bengkulu, Indonesia, 17-January-2017
Author,
Dr.H.Rustam Aji Rochmat, SKp., M.Kes

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GLOSSARY OF TERMS AND ABBREVIATIONS

ABBREVIATION	UNDERSTANDING
DBD	Dengue hemorrhagic fever
Knowledge	Knowledge
Attidute	Attidute
Practice	Action
TPA	Water Reservoirs
Non- TPA	Not Shelter Water
TAT	Natural Place Open
Promosi Kesehatan	Health Promotion
P2M	Combating infectious diseases
Jumantik	Larva monitoring
Ae	*Aedes aegypti*
Ae albo	*Aedes albopictus*
Culex	*Culeks*
Fogging	Spraying by Evaporation
Thermal Fogs	Smoking hot
Cold Fogs	Cold Fogging
Breeding Place	knowledge of mosquito breeding
Resting Place	knowledge of mosquito breeding places
Abate	powder powder killer mosquito larvae
Pupa/kepompong	Insects will be transformed into a mosquito
Larva	Caterpillar-shaped insects and immature
Jentik	Wiggler young and live in water
Field Research	Studies in the field of learning
HI	*House Index*
CI	*Countainer Index*
BI	*Breeteau Index*
Density Figure	the density of the mosquito population
ABJ	Free Numbers larva

PART. 1

INTRODUCTION

1.1 Background.

Dengue hemorrhagic fever (DHF) in the community is one of the acute infectious disease remains a health problem both individuals, families and communities. This is due to dengue hemorrhagic fever is spreading fast and often lead to extraordinary events (KLB) in the community, causing morbidity and kematian.Demam dengue virus are acute febrile disease, which is transmitted through the bite of aedesaegypti mosquitoes that transmit the virus dengue into the human body through the saliva that enter the blood kealiran causing dengue fever. WHO (1999).

The World Health Organization declared the rising cases of dengue merupakanmasalah major health, estimates there are 50 to 100 million people with dengue fever each year. WHO (2012).

Public behavior that is expected in the Healthy Indonesia 2025 is the behavior that is proactive to maintain and improve health, prevent the risk of disease, protect themselves from the threat of disease and other health problems, litigious, and actively participated in the movement of public health, including promoting a healthy society and secure or safe community. Ministry of Health (2009).

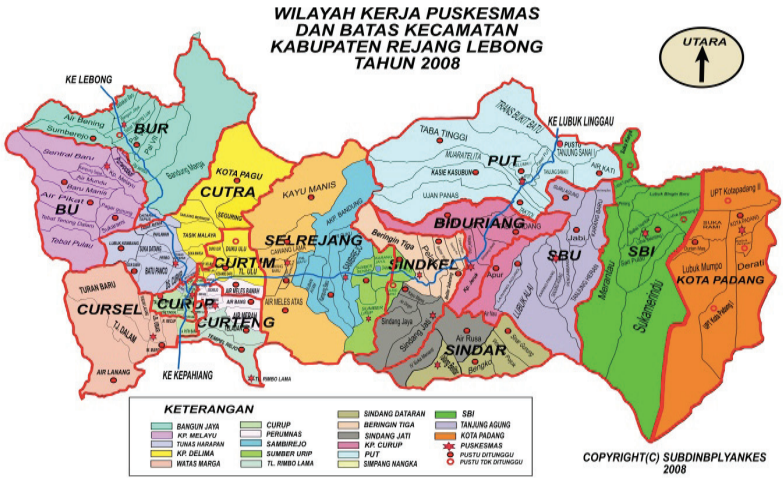
Countries Indonesia consists of 31 provinces denguepada discovery of dengue cases in 2012 was 90 245 DHF patients with the death toll reached 816 people, in mid-2013 recorded 48 905 people, 376 people died of dengue fever. Ministry of Health (2013).

DHF began to be discovered in Indonesia in 1968 in Surabaya. All cities and counties in East Java has become endemic areas of dengue disease since 1995. Malang became one of the places that become high enough incidence of dengue fever in 1998 with the death rate reached 0.80%. Soegijanto (2006).

DHF began to spread every related areas and provinces in Indonesia, so that in 1980 all provinces in Indonesia have been infected with dengue disease. Countries Indonesia is endemic to the spread of dengue cases throughout the territory of the country, in 2008 was 117 830 cases with 953 deaths, in 2010 recorded 156 086 cases with 1,358 deaths, were the highest dengue cases in Asean, and in 2011 cases of dengue fever in Indonesia decreases with the number of 49 486 cases and 403 deaths. Dit Jen PP and PL. Ministry of Health (2013).

RejangLebong with an area of 1.515.76 km2 consisting of 122 villages and 34 urban villages in 15 districts covering Curup, Central Curup, Curup East, North Curup, South Curup, BermaniUluUluBermani Kingdom, SelupuRejang, SindangKelinggi, Sindang Plains , Binduriang, Padang Ulak Slam, SindangBelitiUlu, SindangBelitiIlir and Padang.

The total population of 250.608 inhabitants, a population density of 165 per km2yang envisaged in RejangLebong district maps can be seen in Fig.1 below:



Based on the Annual Report of the Provincial Health Office of Bengkulu in four districts, there are 157 cases of dengue in 2011, consists of RejangLebong 66 No cases of dengue, South Bengkulu in 2011 there were 51 cases of DHF, Central Bengkulu in 2011 there were 24 cases of dengue, Kepahiang the year 2011 there 16 dengue cases. Bengkulu Provincial Health Office report (2012).

Officers larva monitoring (Jumantik) DBD in the villages / wards in ten (10) districts in the province of Bengkulu in 2012, consists of 1). Muko-Muko No 8 larva monitoring officer, 2).Kaur District No 8 larva monitoring officer, 3).North Bengkulu District No 9 officer larva monitoring, 4).Central Bengkulu District No 8 larva monitoring officers, 5).South Bengkulu No 9 larva monitoring officers, 6).RejangLebong District No 8 larva monitoring officer, 7).Seluma No 8 larva monitoring officers, 8).Lebong No 8 larva monitoring officer, 9).Kepahiang District No 8 larva monitoring officer, 10). Bengkulu city there are eight officers larva monitoring, the total number there are 58 officers larva monitoring of dengue fever in the village / villages in 10 districts in Bengkulu Province area

RejangLebong larva monitoring officers, there were only 8 people jumantik trained personnel assisted the Provincial Health Office of Bengkulu, which is spread over 15 districts in the working area RejangLebong District Health Department. Based on the decision of the Provincial Health Director Bengkulu number 4643/4149 / Kes.III / 2012, dated 01 October 2012, on the establishment of larva monitoring the implementation of dengue in the province of Bengkulu (2012).
Based on the report the percentage of homes / buildings free larvae of Aedesaegypti by districts and health centers RejangLebong in 2012, specialized in the work area Puksemas Housing Curup Village Stone Galing District of Curup Central, there are number of houses existing building 6836 homes, the number of buildings which examined 6447 (94.31%), house mosquito-free buildings exist 3,250 (50.41%). Reports of sexy PL and Bin.Kes.TTU and P3 PL Din.Kes.Kab.RL in 2010 in RejangLebong District Health Profile (2010)

DHF patients in Puskesmas Housing Curup Middle RejangLebong based on data obtained from reports Health Profile RejangLebong of 2006 there were 7 cases of DHF, in 2007 there were 52 cases of dengue fever, in 2008 there were 79 cases of dengue fever, in 2009 there were 57 cases of dengue fever , in 2010 there were 16 cases of dengue fever, in 2011 there were 19 cases of dengue fever, in 2012 there were 66 dengue cases and in 2013 there were 28 cases of dengue fever, within eight years, the number of prevalence of 324 dengue cases were divided into 8 years = 40.5 rounded figures thus becoming 40 dengue cases on average per year. Based on the report profiles RejangLebong District Health Department (2006 to 2013) Location research PuskesmasBatu Village Housing CurupGaling District of Central Curup with 3:42 km2 area consists of six villages; Stone Galing, Banyumas, Air Bang, KampungJawa, Sidorejo and TalangRimboBaru, in the working area of the District of Curup Central, a population of 34 709 inhabitants (with the highest number of inhabitants of the 15 districts), population density 10 149) per km2 (the amount of the highest population density of 15 districts), the potential occurrence of Aedesaegypti larvae growth coupled with dengue larva monitoring officers who have not yet formed, the increase in dengue cases kepadadatan potentially affected population, mobility and uncontrolled urbanization. Larva monitoring officers in PuskesmasBatu Village Housing CurupGaling District of Central Curup particularly in RT.01, RT.02 and RT.03 at RW 01, a housing complex dense residential population and yet formed larva monitoring officer, is a problem Aedesaegypti larvae in the growth of uncontrolled. Researchers taking research location in Puskesmas Housing Curup, because the number density of population in one district of the most high of 14 other districts in the area RejangLebong, reaching 34 709 inhabitants with a population density deployment 10.149 per km2. Statistics Office report in RejangLebongRejangLebong District Health Profile (2012).

Around the residential complex of RW 01 which includes RT.01, RT.02 and RT.03 Housing Sub-district Puskesmas Central Curup siring channels exist in the front, next to the house, the water flowing disiring not too heavy and there is a puddle of water, if the season rain water disiring rushing, water is abundant and overflowing into the road and a home page that formed puddles, when the rain had subsided and stopped, puddles in the yard and the road soil absorbs naturally into the ground, and a puddle of water on the road ketepi bitumen will flow towards siring, overflow water because the drains in siring narrow and small, so it is not able to accommodate the flow of water, puddles disiring could become breeding places of dengue and growth vector Aedesaegypti larvae.
Survey data retrieval dengue cases of the Annual Report Profile DHO RejangLebong from January through December of 2013 obtained the primary data of the report, in 2013 at the health center Housing Curup there were 28 cases of dengue from January of last 04 cases, of February there were 10 case, there are 03 cases march, april there are 04 cases, there are 03 cases mei, juli there are 01 cases, 03 cases last august, september there are 0 cases, there are 0 cases october, november and december there are 0 cases there are 0 cases of dengue. Annual Report RejangLebong District Health Office (2013)

Efforts to eradicate the vector by using insecticide was carried out by local government through district health offices RejangLebong and cause problems such as vector resistance and environmental pollution because researchers want to conduct research on combating vector mosquito larvae of Aedesaegypti by increasing the knowledge, attitudes and actions of

the community through health promotion to see the relationship with patients suspected of dengue and how a community effort to motion 3 M, namely drain, closing and hoarding shelters water at shelter Air (TPA), not shelter Air (Non-TPA) inside the house, Non-landfill outside the house and outdoors (TAT) to reduce / eliminate the presence of Aedesaegypti larvae, and made a thorough research about the existence of larva of dengue vector / index larvae .In TPA, Non-TPA) inside the house, outside the house Non-TPA and TAT.

The spread of dengue disease in a region must be controlled so that the disease receive proper treatment. One effort that can be done to control the spread of disease is by mapping the disease vector. Not found drugs and vaccines to treat diseases resulting dengue prevention methods through to cut the transmission by controlling the vector population becomes important disease Fathi, (2005).

Public behavior that is expected is proactive to maintain and improve health, prevent disease risks, protect themselves from the threat of disease, as well as actively participate in the movement of the public health through health promotion. Increase the active role of the community and family members in the prevention and control of dengue disease is the key to the success of efforts to combat dengue disease.

1.2 Results and findings from researchers, associated with dengue hemorrhagic fever

No	The Name of Researcher	Title of Research	Design of Research	Conclusion
1	Rustam Aji	Effect of Boiled Carica Papaya Leaf on Death of Aedes Aegypti Larvae.Study Program in Nursing Curup School of Health Polytechnics.Bengkulu.Journal of Epidemiology and Public Health. 2017.	This was an analytic experimental study using randomized control trial design.	Carica papaya leaf is effective to increase the risk of death among Aedes aegypti larvae
2	Rustam Aji	Performance of "jumantik" and Incidence of Dengue Hemorhagic Fever in Rejang Lebong District.2015.	*Crossectional Study*	Analysts bivariate results showed a significant relationship between performance Jumantik and incidence of dengue.
3	Lilik Irianto Hadisaputro	Environmental Factors Air Shelter (TPA)	This type of research is observational using cross sectional design.	The results of the study 33.3% of the 96 TPA belongs to villagers Katekan

	associated with the presence of Aedesaegypti mosquito larva in the village KatekanGrobogan 2008.	Popualasi in research ber 2150 the number of homes. The sampling technique using a minimum sample size, obtained a sample of 92 houses. Instruments in this study is a flashlight, for observation of larvae, questioner and check list. Data from this study were analyzed by Chi-Square test	positive Aedesaegypti larvae. Of the nine factors above related to the presence of larvae of Aedesaegypti are: supply of water in the landfill (p = 0.001), color TPA (p = 0.001), customs clearing TPA (p = 0.001), the habit of closing the landfill (p = 0.001) whereas the type designation use of landfill, landfill placement location, the type of water source, the texture of the landfill material, discard the habit of thrift is not related to the presence of Aedesaegypti larvae. The conclusion of this study are: 1. There is a relationship between the supply of water in the landfill by keberadaab larvae of Aedesaegypti, 2. There is a relationship between the color of the landfill by kebreradaan larvae of Aedesaegypti, 3. There is a relationship between the habit of cleaning the landfill by the presence of mosquito larvae of Aedesaegypti, 4 . There is a relationship between the habit of closing the landfill by the

				presence of Aedesaegypti larva.
4	DewiMustikajayadanErniwati Ibrahim	Relations mosquito nest eradication (PSN) by the presence of Aedesaegypti larvae in Region endemic village KassiMakasar in 2011	This type of research is observational with cross sectional study design The population of existing homes in the Village KassiKassi many as 3908 homes, with the number of a sample of 100 homes, samples were taken by the method Proportional Sampling. Data presented in the form distribution tables and statistics analyzed with chi square test	The results of this study indicate that the presence of larvae 57.0%, drain landfill (Water reservoirs) 50.0%, burying items scars that can hold water 84.0%, closing the landfill 25.0%, sowing abate powder 0%, and keep the fish-eating larvae 5.0%. This study shows that deplete TPA (p = 0.000) and closing the landfill (p = 0.000) was associated with the presence of larvae Aedesaegypti while burying used items that can hold water (p = 0.947) and maintain the larvae-eating fish are not related to the presence of larvae Aedesaegypti This study suggests the District RappociniKassiKassi Village community to be more frequently endeavor to undertake mosquito eradication of dengue hemorrhagic fever (DHF PSN) is to drain and shut TPA TPA.
5	Anif	Container		Results of the 37

Budiyanto	characteristic of the presence of Aedesaegypti larva in SD SubdistrictBatu Raja Eastern District. UluOganOgan South Sumatra province in 2008.	Research Design Cut latitude. Survey Data Collection with larvae, for 3 months. Single method Larva	schools inspected, 20 schools found positive for larvae and 17 schools was not found larvae. Of the 182 containers were found to contain water, as many as 54 containers found positive larvae. Flick found the majority (91%) is Aedesaegypti. There is a significant difference between color difference containers (dark and light) with the presence of mosquito larvae (P = 0.017, 95% CI = 1.2 to 2.9). There is no significant difference between the different types of containers, layout containers, material containers, the condition of the lid container and the volume of water in the container, the existence of larva. Conclusion: There were significant differences discovery flick or not, the container dark with light colored containers. Dark-colored containers are preferred as breeding grounds for mosquitoes Aedesaegypti. Hence it is advisable to seek routine cleaning of containers, so it does not arise dirt /

				mildew that cause containers seem to be dark.
6	Sulina Parida, Surya Dharma, Wirsal Hasan.	The existence of a relationship larva of Aedesaegypti and Implementation 3 M Plus with Genesis DHF in Environmental XVIII Kel. Binjai Medan Year 2012	Type analytic survey research using cross sectional study design. When the study of the moon in July 2012 s / d in January 2013	The result of the number of respondents to the existing container and suffering from dengue larvae as much as 2 people (40%), there is not suffering from dengue larvae were 3 people (60%) and no larvae are not suffering from dengue as many as 95 people (100%). Results of analysis using Fisher's Exact test was obtained p value of 0.002 (p <0.005), which means hat the existence of larva has a significant relationship with the occurrence of DHF. Conclusion: Based on the results of research conducted that the number density of larvae with scale House Index (HI) is 5% and the Container Index (CI) was (4%), enforcement action 3 M Plus respondents included in both categories as many as 78 respondents (78%) and the poor as much as 22 respondents (22%), there is a relationship between the presence of Aedesaegypti

				mosquito larvae with incidence of dengue with p = 0.002 and there is a relationship between the implementation of the 3 M Plus with incidence of dengue, with p = 0.047. It is recommended that people do kegaiatan PSN DBD regular and continuous activities such as 3 M Plus
7	Dewi Susanti	Relationship Behavior (Knowledge, Attitude and Practices) mosquito nest eradication (PSN) by the presence of Aedesaegypti larva on Shelter Air (TPA) in RT.02 / II Ex. Tambakaji Semarang 2006.	Types of Research Eksplanatory. Analysis of the Chi Squar	Results of univariate data processing results obtained for the level of knowledge of the PSN largely categorized as less of (64.1%), including the category of sufficient knowledge of (20.5%) and good knowledge of the category of (15.4%). Attitudes of respondents to the implementation of PSN largely categorized as less of (43.6%), the respondents' attitudes including enough category of (25.6%) and the attitude of the respondent good category (30.8%). Practice PSN respondents mostly included category less by 67.9%, including the PSN practice enough categories PSN practices 21.8% and

				10.3% good category. Container index TPA respondents in RT 02 / II amounted to 38.42% positive there are larvae of Aedesaegypti. Chi Square test of the relationship of knowledge to the presence of Aedesaegypti larvae obtained result p = 0.001. Relations attitude to the presence of Aedesaegypti larvae obtained result p = 0.001. PSN practice relationship with the presence of Aedesaegypti larvae obtained result p = 0.001, .Simpulan there is a significant relationship between behavior (knowledge, attitudes, practices) PSN with the presence of Aedesaegypti larvae in the
8	Novi Dwi Arini, Zaenal Sugiyanto	The relationship between characteristics Interpreter monitors Larva (Jumantik) against Score status Free Flick (ABJ) in the Village PuskesmasWonotingalKagok 2014.	Types of Research with quantitative analytical observational studies, the approach Cross Sectional Study. The study was conducted through interviews with analysis using statistical tests Fisher, s-exact and Mann-Whitney. Samples were 47 respondents.	The results of the study there was no correlation between knowledge jumantik with status ABJ (p = 0.715), attitude (p = 1.000), the role of the officer (p = 1.000), duration of action (p = 0.446), the completeness of the equipment (p = 0.585), and support honorarium (p = 0.435). There is a

				difference between age jumantik with ABJ status (p = 0.032). For recommended for the respondent to always use the full set of tools when PJR such as flashlights, notebooks and card houses larvae survey larvae survey. For Kel.selalu remind people to drive PSN in Ex. Wonotingal. For health centers, provide training to jumantik routinely associated with the eradication of mosquito larvae.
9	Ririh Yudhastuti	Relations Environmental Conditions, container, and social behavior with the presence of Aedesaegypti mosquito larvae in the Regional Dengue Endemic Surabaya in 2012	observational study (survey) and by the time the research was a cross sectional study design, analytic, primary data through interviews and observations to connecting state of the object being observed and analyzed the existing problems	The density of Aedesaegypti mosquito larvae in Ex. Wonokusumo measured by the parameter HI = 58%, CI = 30.6%, BI = 82% and DF = 7, it indicates transmitting mosquito Aedesaegypti.sehing ga deployment faster and easier transmission of dengue disease. Environmental Conditions in Ex. Wonokusumo that have a relationship with the presence of larvae of Aedesaegypti.adalah humidity. While the air temperature no association with the presence of

				Aedesaegypti mosquito larvae. Types of containers that are used by people in kel.Wonokusumo have a relationship with the presence of Aedesaegypti mosquito larvae. Behavior society that knowledge and action to reduce or suppress the density of Aedesaegypti mosquito larvae. have a relationship with the presence of Aedesaegypti mosquito larvae. While the attitude of the respondents are not related to the presence of Aedesaegypti mosquito larvae in Ex. Wonokusumo. Suggestions that the community expected more active role in the eradication of dengue disease through PSN effort by doing 3 M, especially in draining the landfill by brushing the base and walls regularly and abate powder sprinkled into a container that can not be drained.
10	IBG Ekaputra, Luh Seri Ani dan Ketut Suastika	Analysis of factors associated with the presence of Aedesaegypti larvae in Puskesmas III South Denpasar in	Methods of research conducted at 147 Cross Sectional Household, chosen by systematic random sampling of 5781	the results of research that analyzes show ABJ = 87.1%. Variables associated with the presence of larvae is

		2012	households. Respondent is head of the family. Independent Variable = Knowledge, attitudes, behavior and environmental health. Vareiabel Dependent = presence of Aedesaegypti mosquito larva. Data were collected by face to face interviews individually housed at home using questionnaires and observation sheets. Data analysis was performed univariate, bivariate and multivariate analyzes.	the behavior (PR = 17,89,95% CI: 4.99 to 64.11) and environmental health (PR = 7,08,95% CI: 2.48 to 20.23). Multivariate analysis showed that the more influential behavioral variables (PR = 11,60,95% CI: 2.98 to 45.13). Factors related knowledge and attitudes are not statistically significant. It can be concluded that efforts to change behaviors that support PSN DBD is still needed. Puskesmas need to improve health promotion tentan g dangers of dengue and its prevention, coordination across relevant sectors and the performance of larva monitoring (jumantik) to improve the PSN behavior of households, resulting in increased morbidity ABJ and a drop in dengue.
11	Heni Prastyowati	Flick and Nocturnal Activity Survey Aedes SPP in Pangandaran Travel Market in 2013	Research the type of observational sample of 57 randomly selected kiosks. Survey conducted by using a single larva larvalarva methods identified in the laboratory of entomology Loka	Results Aedes species found are Aedesaegypti index entomology House Index (HI) was 29.8%, Breteau Index (BI) 47.7%, while the Container Index (CI) of 61.4% and Figures Free

			Research P2B2 Ciamis. Catching mosquitoes is done by human landing and resting collection	Flick (ABJ) 70 , 2%. Types of containers found pangandaran travel market region include dispensers, buckets for bathing shelters, which lies outside the bucket, bath, birdbath and water reservoirs in addition to the bucket. The discovery of the evening activity of Aedesaegypti from hours 18:00 to 03:00 pm, both inside and outside the home.
12	Dameria, Zulkarnaini	Relations Environmental Sanitation Conditions Households by Presence Flick Dengue vector in dengue prone regions Dumai City in 2008.	Type of survey research using cross sectional design	Poor environmental sanitation conditions (62.7%) There were 88 positive containers larva of Aedesaegypti were found in the house of 509 containers, 52 containers found outside the home, Figures House Index (HI) 86.27%, Container Index (CI) 28% and figure Bruteau Index (BI) 137% .. There is a relationship between household environmental sanitation with the presence of dengue mosquito vector of dengue-prone areas (Rho = 0.586 and p = 0.000. Aspects of the most dominant environmental sanitation related to the existence of larva of dengue vector is household practice

	in PSN-DBD with a P value of 0.000 and β = 0.635. So the factors that most influence / dominant against the existence of larva of dengue vectors are PSN-DBD.

1.3 **Opinion of the theory associated with dengue hemorrhagic fever**

No	Explanation
1	Knowledge does not show a significant relationship to the incidence of dengue. Environmental factors such containers is a critical role in the transmission of dengue. Fathi, (2005)
2	There was a significant correlation between the respondents' knowledge with PSN. Budiyanto A. (2005)
3	The attitude of the respondents did not affect the existence jentik.Faktor environment that affect the existence of larva is where kontainer.Yudhastuti.R, (2005
4	There is a relationship between PSN, 3 M + plus the presence of Aedes larvae. There is no correlation between knowledge of the presence of Aedes larvae. Sumekar, DW (2005
5	Factors cleaning the water reservoirs are the factors most related to the incidence of DHF (Duma Nicolas. (2007)
6	Variables that influence the participation of housewives in PSN DBD are: The level of knowledge of housewives about dengue disease, their suggestions and visit a health promotion officer and jumantik home / residence homemaker tangga.Holani Ahmad, (1997)
7	After mating, the female mosquitoes require blood to lay eggs. Female mosquitoes suck human blood once every 2-3 days in the morning until late afternoon, and prefer the hours 08:00 to 12:00 and 15:00 to 17:00 hours. female mosquitoes to get enough blood often bite off more than one person (multiple bitter). Mosquito flight range of around 100 meters and the age of the female mosquito can reach about 1 bulan.Sumekar, DW (2005))

	The larvae live behavior associated with its efforts poked breathing apparatus called chiffon reach the water's surface to get oxygen to breathe. Habitat entire period pradewasanyadar eggs, larvae and pupae live in water even though the water is very limited conditions. Judarwanto. (2007).
8	Imago Aedesaegypti and Aedesalgopictus males have the same eating behavior that is sucking vectors and plants as a source of energy. In addition to energy, the female imago also need a supply of protein for production purposes (anautogenous) and the process of egg maturation. The supply of protein obtained from the blood fluid host Sumekar.DW (2005)
9	Once full sucking blood, female mosquitoes need to rest about 2-3 days to mature eggs. Preferably resting places of Aedesaegypti are places that are moist and less bright, like the bathroom, kitchen, WC and in the home such as clothes hanging, mosquito nets, curtains whereas Aedesalbopictus outdoors as ornamental plants in the yard. Sumekar.DW (2005)
10	Trend cases of DHF are generally common in the tropics, and appeared in the rainy season and decreased after the rainy season ends. This virus appears due to the influence of the seasons and nature as well as human behavior Dep.Kes. RI. (2004).
11	Aedesaegypti mosquitoes prefer to lay their eggs in the wet surfaces of the containers. Never found laying on the surface is dry and muddy surfaces. Based on the experiments in the laboratory was 29.9% of the eggs can be hatched on the surface of the water if the surface is provided containers are not suitable, for example, a glass surface. A survey in Tanzania and found breeding place at the following places, tires, secondhand parts (parts), wooden barrels, peanut shells, jars of water, indentations daun.bekas houses siput.lubang holes in trees, pieces of bamboo. Sumekar.DW. (2005).
12	Factor rainfall was closely linked to the population growth in the field. In the dry season a lot of used goods such as cans, plastic cups, plastic scrap, used tires, and the like are discarded or placed irregularly in any place. Goal disposal or used goods such penaruhanbisaanya in the open like empty land or unused land in urban areas and in rural areas. When the weather changes from dry season to rainy season most surfaces and items Bakas it becomes a means of rainwater. When in place or used items that contain eggs hibernation it will soon hatch into larvae of Aedesaegypti in time (9-12 days) into adult mosquitoes. Supartha (2008)
13	Factor rainy season has real perngaruh against Aedesaegyptipopulation fluctuations. Supartha, (2008).
14	Aedesaegypti mosquito development related to climate change. Increasing temperature is the temperature that is optimal for larval development and speed for the virus replicates, if the temperature is too cold in the rainy

	season, the development of the virus and mosquitoes to move slowly. Temperature also affects the activity of eating and the rate of development of the eggs become larvae, pupae and larvae become pupae become adult mosquitoes. Supartha. (2008).
15	Female mosquitoes during the rainy season obtaining clear water habitat is very wide to lay their eggs. Any object or grooves notched tree or used pieces of bamboo trees are also potential as a container of clear water which can be used as a place for laying eggs of insect vectors especially Aedesalbopictus which bisaa living outside the home. Moreover, the weather in cloudiness and monsoon can stimulate mosquito nesting instinct. The mosquito population has increased dramatically at the start of the rainy season, followed by the rising cases of dengue in the region Supartha (2008).
16	Aedesaegypti and Aedesalbopictus is a type of mosquito that can carry dengue virus causes dengue disease. In addition to dengue, Aedesaegypti is also a carrier of yellow fever virus (yellow fever) and chikungunya. The spread of this type is very broad, covering almost all tropical regions around the world. As a carrier of the dengue virus, Aedesaegypti mosquito is the main carrier (primary vector) and joint Aedesalbopictus (co vector) creates a cycle of the spread of dengue in the villages and towns. Supartha (2008).
17	Humidity adalam concentration of water vapor in the air. The ideal humidity for the growth or proliferation of the mosquito Aedesaegypti is 60-70%. Humidity affects the Aedesaegypti mosquito breeding especially on egg cycle. When the humidity is less, the eggs can hatch in a long time, could reach three months. If more than that time, the eggs will be decreased fecundity (not able to hatch again). Although only a week if the humidity is high (above 70%) embryos can underwent development in the eggshell itself. The dry season polulasi density of Aedes low because it does not get a place to hatch. While the rainy season there are many puddles of water so that mosquitoes get high humidity until they hatch. Sragen. (2008).
18	DHF is a contagious disease caused by the dengue virus and transmitted by Aedesaegypti and Aedesalbopictus. Mosquitoes are most responsible for transmission of this disease is the mosquito Aedesaegypti because of his life in and around the house, while the Aedesalbopictus life in the gardens so that less frequent contact with humans. Sumunar, (2008)
19	Penularanjugadapatterjadiapabilanyamuk*Aedes*betinasedangmenghisapdarah orang yang terinfeksi virus *Dengue*, dannyamukitusegeraakanmenggigit orang lain pula. Menyebabkan virus yang terdapat di dalamprobosisnyamuktersebutakanmasukkedalamperedarandarah orang keduatanpamemerlukanmasainkubasi. Seekornyamuk yang sudahterjangkitakanmembawa virus itu di dalambadannyasampaiberakhirkehidupannya. Siregar, (2004).
20	Evolving place Biak Aedesaegypti and Aedesalbopictus The mosquito life cycle through a complete metamorphosis, meaning before

	they become adult stage must undergo several stages of growth of the egg, several larval stages and pupal stage. One cycle length of approximately 9-12 days and is highly dependent on the presence of food supplies and the appropriate temperature. Knowledge of oviposition (nesting) and breeding place (breeding grounds) in the life cycle has a special meaning because it is related to vector control programs. Wijana, (2002).
21	Biologically the species of mosquitoes that have two aquatic habitat (aquatic) for pre-adult phase (eggs, arva and pupa), and land or air to the adult insect. Mosquitoes are habitat imago on land or air will be looking for a place near the surface of the water to lay their eggs. When the eggs are laid it is not a touch of water or dry was still able to survive between three months to one year. The hibernation period the eggs hatch when it will end or already have a suitable environment in the rainy season to hatch. The eggs hatch between 3-4 hours after a puddle into larvae. Larval habitats living out of the egg floats below the surface of the water. Judarwanto, (2007).
22	Reported that the Aedesaegypti has two sub species are Aedesaegypti and Aedesaegyptiformosusqueenslandensis. The first sub-species living freely in Africa while the second sub-species living in the tropics known to effectively transmit the dengue virus. The second sub-species is more dangerous than the subspecies pertama.Roche, (2002).
23	Based on the voting patterns of habitat and life kebisaaan adult Aedesaegypti mosquitoes can breed in clean water reservoirs such as bathtub, crock, birdbath and secondhand goods are disposed of carelessly that when it rains filled with water. While Aedesalbopictus can breed in habitats plantations mainly in tree holes or the base of bamboo that have been cut are bisaanya rarely observed in the field. The condition is possible because the mosquito larvae can Berembang multiply with minimum water volume of approximately 0.5 centimeters similar or equivalent to one teaspoon. Hasyimi and Soekirno (2004).
24	Unlike the imagonya habitat that live freely on land (terrestrial) or air (aborial). Aedesaegypti prefers a place in the house while the residents of Aedesalbopictus is more like a place outside the home that is living in a tree or garden or forest edge region therefore often called mosquito gardens. Aedesaegypti mosquito that prefers habitats in the house often alights on hanging clothes to rest and hide await the right moment to come to suck the blood of the host. Supartha (2008)
25	Mode of transmission of dengue fever is one infectious disease caused by the dengue virus and transmitted by Aedesaegypti and Aedesalbopictus. Mosquitoes are most responsible for transmission of this disease is the mosquito Aedesaegypti because of his life in and around the house, while the Aedesalbopictus life in the gardens so that less frequent contact with humans. Sumunar, (2008).

26	DBD management area-based networking requires all healthcare providers in cities with a base area village, village, RT, RW and villages. Among the networking components are health centers and general practitioners who practice in an area of the hamlet, village, RT, RW and villages which dimaksud.UmarFachmiAchmadi (2010)
27	Dengue hemorrhagic fever is still a public health problem in Indonesia. Control DBD main thing is to break the chain of transmission is by vector control, because until now the vaccine and cure yet, control is not likely to work well if it is only done by the health sector, because based environment that is in the water reservoirs, instead of water reservoirs and standing water in the outdoors, and the aedesaegypti mosquito larvae and developing starter in dense residential areas penduduk.Untuk prevent resistance and effectiveness, the use of insecticides should be selective, targeted, precise dose, timely, accurate and cakupan.Peran as well, awareness and activity of the community and across relevant sectors should be improved continuously through health education and the promotion of good health from the health department, health centers and the officer cadre larva monitoring, to control the resources and the aedesaegypti mosquito larvae through 3 M plus and unified PSN. To improve the leverage of dengue control will be done well if it is driven by the Ministry of the Interior, the Ministry of Health including local governments, health agencies and all levels of administration and technical support from the health sector. Suresh Sragen (2010).
28	Need to do outreach to the public about dengue and its prevention through mass media, schools, places of worship, or community group PKK cadres lainya.Perlu larvae survey conducted regularly, especially by the health center so that it can suppress and reduce the density of Aedesaegypti mosquito larvae. Anny Vidiyani (2012)
29	The success of the residential environmental health / public places (in the indicator Healthy Indonesia 2010), can be seen from the coverage Figures Free Flick (ABJ) at least 95%. MOH (2000)
30	Bruteau Index (BI) is an index of larvae of the most informative because it includes the relationship between the house with shelter positive. This index is particularly relevant to focus its efforts on the management control or destruction of the habitats of the most common and orientation to the educational messages in the activities undertaken by the community, the dengue vector control can be done by improving environmental sanitation to minimize vector breeding sites. WHO (2001).
31	Single larvae methods arrest larvae in each container / water reservoirs located inside and outside the home and unused items that can hold water. From each container containing a larva larvae taken and identified in laboratory DIT Jen PP and LH (2009).
32	Aedes aegypti mosquito larvae MORE liked best container building which is located OPERATION. Pranoto (1994)

33	Jars, drum and tub are three types of container causing many favorable conditions jenti Aedes aegypti into adulthood, considering all three including landfills that are large and hard water is replaced. Hasyimi (2005)
34	HI area having greater than 20% risk of transmission of dengue cases are high. Zuckerman (2009).
35	Aedesaegypti mosquitoes prefer to live and lay eggs inside the house (indoor), whereas Aedesalbopictus mosquitoes prefer to live outside the home (out door). Hasyimi (2005).
36	ABJ value is relatively low (less than 95%) can increase the chances of transmission of dengue virus. Muchlastriningsih (2005)
37	The use of landfill in residential areas where the daily water requirements are managed PAM, often poses a problem for vector breeding caused many residents hold water in the landfill. Soekirno (2004).
38	The number of larvae found in containers of ceramics at least in comparison to containers made of cement or drum. Sungkar (1994)
39	More mosquitoes Aedesaegypti and Aedes larva in artificial containers of nature, more in without a cover of the closed, more happy in the dark than in the light. There is a relationship between the type of material in landfill, where the lid and the cleanliness of the landfill with the existence of larva. Wongkoon (2007)
40	Containers most predominantly found larvae of Aedesaegypti was the bathtub. Ipa, Lasud (2006).
41	Types of containers in the bathtub, bucket of water reservoirs outside the home, dispensers, birdbath and other water container is where Aedesaegypti larvae. Ma'mun. (2007)
42	House Index (HI), one of the indicators used to calculate the risk of the spread of disease. This index gives the percentage of houses positive instructions for the proliferation of human populations at risk for dengue,Contaner Index (CI) expresses the percentage of positive containers Aedesaegypti larvae. Areas that have little positive containers larvae, epidemiologically important because it produces larvae in large quantities, and vice versa less risky outbreak, the three indexes larva Breteau index (BI) best estimate density priority because it combines both the home and container. WHO (2003).

PART II

THE CONCEPT THEORY

2.1 Concepts Behavior

Human behavior which departs from the soundness of health is influenced by two main factors, namely behavioral factors*(behaviorcauses)*and behavioral factors beyond the*(nonbehavior*causes).Notoatmodjo (2003)
Furthermore, the behavior itself is formed of three factors:

2.1.1predisposing factors(predisposingfactors),is a factor *antesenden* against behavior that becomes the basis of the motivation for the perpetrator. included in this factor is knowledge, attitudes, beliefs, beliefs, and values.

2.1.2Enabling factors*(enablingfactros),*is a factor *antesenden* against behavior that allows a motivation or aspiration realized. These factors manifest in the physical environment, provided or unavailability of facilities or health facilities, for example: PHC.

2.1.3Factors amplifier*(reinforcingfactors),*is a concomitant factor that comes after the behavior, reward or punishment for his intensive behavior and acts like a settled or cessation of the behavior. These factors are included in social benefits, physical, real or not real rewards received by other parties*(vicarious* rewards).

2.2 Theory of Knowledge Social*(SocialLearning*Theory)

Theory of understanding sisial emphasis on the triangular relationship between people (regarding the cognitive processes), behavior, and environment in aprocess *deterministicof reciprocal* (or causality Reciprocal) Notoatmodjo (2003) when the environment determines or has happened behavior mostly, then an individual uses cognitive processes to interpret their environment and behavior that they're running, and react by altering the environment and receive the results of better behavior. therefore, the theory of knowledge sisial bridge the gap between cognitive models, or models oriented rational decision-making, with other theories above.

In terms of biological, behavioral is an activity or activities of organisms (living things) are concerned. The meaning of human behavior is essentially human action or activity of itself is good that can be observed directly, or which can not be observed by outsiders. Basically, the behavior is a manifestation of the knowledge and attitudes.

2.2.1Knowledge(Knowledge)

According Notoatmodjo (2003) Knowledge is an impression in the mind of man as a result of the use of senses level of knowledge covered in the cognitive domain has six levels:

2.2.1.1 Know*(know),*which are included in this tier are the

recall*(recall)*something about speifik whole Learning materials or stimulating received, and therefore know the level of knowledge of the most low.

2.2.1.2 Understand*(Comprehension)*.A knowledgeable person object or material must be able to explain, cite examples, infer, predict, and so forth of the object being studied.

2.2.1.3 App, defined as the ability to use materials that have been studied on the condition or the actual situation.

2.2.1.4 *Analysis,*is an ability to describe the material or an object into components, but still in the structure and still no connection to one another.

2.2.1.5 Synthesis, an ability to develop a new formulation of old formulations.

2.2.1.6 Evaluation, which relates to conduct an assessment of a material or object. This assessment is based on a story that is determined using a story that already exist.

2.3 ***Attitude (Atitude)***

According Notoatmodjo (2003) attitude is a reaction or response which was still closed from a person to a stimulus or object. How many other restrictions on attitudes among other things: the attitude towards the object is a person's feeling of support or siding*(favorable)*or feelings of support or impartial*(unfavorable)*on that object. Attitude is a certain regularity in the feelings *(affection),*thinking *(cognition),*and predisposing action *(konasi)* a person against an aspect of the surrounding environment.

Restriction of limits above can be deduced that the attitude was an assessment of the circumstances indicated by feel. Attitudes have three basic components, namely: 1) belief (faith), the idea and the concept of an object. 2). Emotional life or emotional evaluation of an object. 3) .Kecenderungan to act*(trendto*behave)Notoatmodjo, (2003)

According Notoatmodjo (2003) level attitude in a person comprising:

2.3.1.1 Receiving: means that the person (subject), paying attention to a given stimulus (the object).

2.3.1.2 Respond*(responding)*provide an answer when asked, do and accomplish a given task is indicative of the attitude, regardless of right or wrong are mean people accept the idea.

2.3.1.3 Appreciate*(valuing):*invite someone else to do or discuss with others on an issue.

2.3.1.4 Responsible*(Responsible):*responsible for everything that has been chosen with all the risks are the highest attitude. Attitude measurement is done by directly and indirectly. It can directly ask respondents how their opinion or statement of an object. Indirectly to do with statements hypothesis, respondents were then asked for the opinion. Behavior measurement can be done indirectly, by way of interviews with activities that have been carried out a few hours, days, weeks, months ago. Direct measurement by observing the actions of respondents. Factors that influence a person's behavior in the field of health is

education, income, owned norms, values that exist in itself, habits and socio-cultural circumstances behave. If these factors are favorable then expected to appear good behavior According Notoatmodjo (2003).

2.4 Action *(Practice).*

According Notoatmodjo (2007) An attitude not automatically materialize in an action (over behavior). To realize the attitude becomes a real acts necessary supporting factor or a condition that allows, among other facilities.

Besides the facility factor, also necessary factor support *(support)* of the other party.

Action *(Practice)* has several levels:

2.4.1.1 Perception *(Perception)*

Identify and select different objects with respect to the action to be taken is a first-rate practice.

2.4.1.2 Guided Response *(Guided response)*

to do things according to the correct order and in accordance with the example is an indicator of the level of the two practices.

2.4.1.3 Mechanism *(Mechanism)*

If a person has been able to do anything right automatically, or something that is already a habit, then he has already reached level three practices.

2.4.1.4 Adoption *(Adoption)*

Adaptation is a practice or action which is already well developed. This means that the action was already in the modification without compromising the truth of such action.

PART III

CONCEPT SOCIETY

3.1 Definition Concepr Society

According Notoatmodjo (2007): society is the unity of human life that interact according to certain customs systems that are sustainable and bound by a sense of shared identity.

Communities are groups of people that large who have habits, attitudes, traditions and sense of unity that same

3.2 Element of Community

3.2.1 Unity social: the form of individual entities that interact, covering the crowd, factions and groups

3.2.2 Institution social: the set norms of all levels ranging on a needs a staple in the social life.

PART IV

THEORY CONCEPTSENVIRONMENTAL HEALTH

4.1 **UnderstandingEnvironmental Health**

Environmental Health consists of two syllables, namely health and healthy lingkungan.defenisi according to (WHO, 2008), which is healthy is a state of complete physical, mental and social wellbeing and not merely free sick and disabled, that maybe someone can work peoduktif.

Health includes physical health (free from disease, all organs function perfectly), mental health: is divided into three, namely (thoughts, positive, and can be received by common sense) Emotions (regular express their emotions), and Spiritual (ordinary express gratitude to God). Social health is regular interaction with other people, and the health of the economy in which one can make ends meet.

Environment is everything that is around us. According to (Act. No. 23, 1997) is a unity room environment with all things, the power, the circumstances, the said human beings living and behavior that affect the lives and welfare of human beings and living things.

According Soekidjo Notoadmojo, (2007) in his book entitled "Health Science Community" mentioned, environmental healthis a condition or state an optimal environment so positive influence on the realization of optimal health status.

The health of the environment can be defined that is an integral part of public health sciences and nenpelajari specifically addressing human relationship with the environment in the ecological balance. Environmental health is essentially something the condition or state of optimal environmental anyway. The scope of environmental health, among others, include housing, disposal of human waste (faeces), water supply, sewerage (wastewater), livestock (cages) and so on.

As is the environmental health effort is an attempt to improve or optimize the human environment that is a good medium for the realization of optimum health to the people living in it. Efforts to improve or boost the environmental conditions from time to time and from other communities varied and stratified, from the most simple *(primitive)* through to the intermediate technology (appropriate technology) up to teknoligi mutakir.

The scope of environmental health include housing, human waste disposal, water supply, waste disposal, waste disposal, and so on. Developing countries, environmental health issues revolve around the means of Water (SAB), Channel Sewerage (SPAL), garbage disposal, toilet facilities, and the state of the house.

Keeping in that kesehataan environmental issues in those countries emerging is ranged on clean water supply, sewerage system (SPAL), landfills, advice latrines, and the state of housing, then only will be addressed to the six problem.

According to (Act No.23 of 1992 Health) is a prosperous state of body, soul and life setiaporang possible social and socially economically peroduktif internal living environment is a dynamic and balanced state of the call with homestatis, while the external environment is an environment in outside the human body consists of three (3) components, among others:

4.2 The Physical Environment

Physical Environment is abiotic or inanimate objects such as water, air, soil, weather, food, heat, water, radiation, and others. The physical environment interacts constantly with humans throughout time and time and plays an important role in the occurrence of the disease in the community.

4.3 Biological Environment

Biological Environment is biotic or living things, such as grow-tunbuhan, animals, viruses, bacteria, fungi, parasites, insects, and others. Which acts as an *agent,* disease, *reservoir* of infection, disease vectors and host intermediate.hubungan human biological environment is dynamic, and in certain circumstances when there is an imbalance between the relationship, people will become sick

4.4 Social Environment

of environmentalSocial form of culture, customs adaptation, custom, belief, religion, attitudes, standards, and lifestyle, work, community life, social organization, and political. humans are influenced by the social environment through various media, radio, TV, press, lileratur art, stories, songs, and so on. If man can not adapt to the social environment, there will be conflict and cause psychiatric symptoms such as psychomotor, insomnia, depression, and others Soekidjo Notoadmojo, (2007).

4.5 Environmental Influence Of Health

Environmentalis one of the factors that determine health, as well as several other variables such as behavior, the existence of health services and heriditer. In line with this, according to a recent report the World Health Organisation (WHO) as many as 24% of global disease is caused by any kind of environment are factors that can be prevented. Therefore, in the future are increasingly required intensive and serious efforts of many stakeholders to intervene against environmental factors.

SECTION V

THEORY CONCEPTS HEALTH PROMOTION

5.1 Understanding Health Promotion

Definition of terms of health promotion in the health sciences community has two meanings. The first notion of health promotion is part of the level of disease prevention and health improvement.

Health promotion in this context is improved health. The second notion is defined sebagau efforts to market, distribute, introduce or "sell" health. From the definition of health promotion, almost the same as health education, for health education principally aims to make people behave in accordance with the value of health (Notoatmojo, 2007).

Health promotion is an effort to influence the people to stop high risk behaviors and replace them with safer behaviors or who are at low risk.

Counseling Health Promotion is an effort to increase community participation to improve their knowledge and develop skills to change perlikau.

Extension mosquito eradication are: education about dengue fever PSN community. Srta role in building community in implementing the prevention of dengue disease, it is important to be given the knowledge and skills about the techniques PSN.

5.2 **Factors Affecting Peoples**

According to the Department of Health (2008), generally there are four factors that can influence people to change behavior, namely

SECTION. VI

OFFICERS LARVA MONITORING

6.1 Form Role of Health Promotion of Officers Cadre Larva Monitoring

6.1.1 Role of Tim Larva Monitoring tasked to conduct an examination of the entire water reservoirs or other places which are potential mosquito breeding sites *of Aedesaegypti* and *Aedes Albopictus* inside or outside the building at -Lack once a week and provides health education about prevention of dengue and dengue hemorrhagic fever early introduction to the community each working area.

6.1.2 Monitoring flick to the officer neighborhood examination carried out at least by one person Larva Monitoring. At the time of inspection larva, Larva Monitoring assigned to provide health education, health promotion and dissemination to the public about the importance of controlling the dengue disease.

6.1.3 Work and cadres Larva Monitoring responsibilities include:

6.1.4 Creating a plan / schedule of visits throughout his existing home region.

6.1.5 Providing counseling (individual or group) and carry out the eradication of mosquito larvae in homes and buildings.

6.1.6 Play a catalytic role, the supervisory community in mosquito eradication of dengue hemorrhagic fever.

6.1.7 Make note recapitulation oflarvae *Aedes aegyptisurvey.*

6.1.8 The reported results of thelarvae *Aedes aegypti* to the health center once a month

6.1.9 Joint supervisor, monitoring the local area and mapping officer citizens Association larvae survey results, about once a month.

SECTION VII

CONCEPT THEORY OF DENGUE *DENGUE*

7.1 **Understanding Dengue *hemorrhagic fever* (DHF)**

DHF is a contagious disease caused byvirus *dengue* with certain signs and spread through the bite *of Aedesspp.*

An acute viral infectious disease caused by thevirus *dengue* and primarily affects children with characteristics of sudden high fever with bleeding manifestations and tend lead to shock and death of *World Health Organisation* (1999).

7.2 **Causes of**

Fever *Dengue* is a disease caused byvirus *dengue* is transmitted through bite of *theAedesaegypti* and *Aedes albopyctus.*

Dengue *hemorrhagic fever* is an acute febrile disease caused by four serotypes ofvirus *dengue* and is characterized by four main clinical symptoms are high fever, bleeding manifestations, *hematomegali,*and signs of circulatory failure and the onset of shock*(shocksyndromedengue)* as a result of plasma leakage that can cause death sSumarmo (2005)

disease is an infection caused byvirus *dengue* with clinical manifestations, fever, muscle pain, or joint pain that is accompanied by *leukopenia,*rash, *lymph demopati, thrombocytopenia* and *datesis*hemoregic.An infection *arboirus* (arthropod- *borne*virus)acute, transmitted by the mosquito *Aedes species* .Sumarmo (2005).

7.3 **Morphology**

Aedes Adult mosquitohas a relatively small body size, have long legs and an insect that has a pair of wings that belong to the order *Diptera and the family*Culicidae.SUMARMO (2005).

Figure 7.1 *Aedesaegypti*

male mosquitoes are smaller than the female mosquito mosquito's body consists of three parts: head, thorax and abdomen. SUMARMO (2005).

Figure 7.2 MorphologyMosquitoes *Ades aegypti*

Mosquitoes have a pair of shaped antenna *filiform* long, slender shape and consists of 15 segments. Antennas can be used as a key to distinguish the sex of the adult mosquitoes. Antenna male mosquitoes is more dense than the female. Dense fur on the male mosquito called *plumose* while the female

mosquitoes fewer called pilose Soegeng (2003).

Proboscis is a modified form of the mouth to pierce. The female has *mosquito'sproboscis* a longer and sharper, body bent and has a scaly wing edges. Dada made up *protoraks, mesotoraks* and *metatoraks.Mesotoraks* is the biggest chest and the upper part is called *Scutum* used to adjust the time flew.

A pair of wings lies in *mesotoraks,*mosquitoes have long wings, transparent and consists of subdivisions (vein) and comes with sides.

Abdomen mosquito consisting of ten segments, the first segment is usually seen up to eight segments, segments of the latter are usually modified into reproduction. The female mosquito has 8 segments are complete. All segments of black and white striped colored abdomen, forming patterns on the female end of the abdomen to form a tapered point. Soegeng (2003).

Morphologically *Aedes aegypti* and *Aedes albopictus* is very similar, small body size. 3-4 mm long and black and white spots on the trunk, legs and a white ring at the foot mempuntai Soegeng (2003).

But can be distinguished from the white strip located on the skutumnya. Scutum *Ae. aegypti* is black with two white strips parallel in the dorsal middle flanked by two curved lines are white. While scutum *Ae. albopictus* is also black just contain a thick white line on the dorsal Soegeng (2003).

Aedes aegypti *Aedes albopictus*

Gambar 2.2 Ciri-ciri khusus nyamuk *Ae aegypti* dan *Ae albopictus*

Figure 7.3 The specific characteristic of *Aedesaegypti* and *Aedes albopictus*

7.4 Egg

Gambar 2.3 Telur *Ae.aegypti*

Figure 7.4 Eggs *Aedes .aegypti*

Eggsrecently issued white but after 1-2 hours to turn black.eggs *Aedes* elliptical (oval) resembles a torpedo, has a striped wall -a line that resembles a beehive. Eggs are not berpelampung and placed one by one separately on the water surface in a state attached to the wall where perindukannya Soegeng (2003).

The eggs are placed separately on the surface of the water to make it easier to spread and develop into larvae in water media. Water media selected for the nesting place is cleanwater *stagnant* (do not drain) and does not contain other species before. So far, information regarding the selection ofwater *stagnant* as a habitat for spawning *Aedes aegypti* widely reported by the vector

insect researchers from various countries.

The last report submitted by the research IPB Bogor that there are eggs *of Aedes aegypti* that can live in dirty water media and develop into larvae. While *Aedes albopictus* lay her eggs alongside a container or tree hole above the waterline Soegeng (2003).

Careful experiments showed that the eggshell has a particular mosaic pattern.eggs *Aedes* can survive in dry conditions at the time and intensity of which varies up to several months, but still alive. If flooded, some eggs may hatch within a few minutes, while others mugkin take a long time immersed in water, then hatching takes several days or weeks Sumarmo (2005).

A female mosquitoes lay their eggs an average of 100 eggs each spawning. The eggs can survive for months in a temperature of 2-24 ° C, but will hatch within 1-2 days at low humidity. Eggs are laid in the water to hatch within 7 days at a temperature of 16 ° C and will require soaked hatch as much as 80% on the first day and. After 2-4 days the eggs hatch into larvae that live in the water (MOH, 2008).

7.5 **Flicklarvae or**

Figure 7.5larvae *of Aedes aegypti*

Aedes has chiffon short and there are only a pair of comb *subventral* a distance of no more than ¼ part of the base of *chiffon* with a set of hair.

At recess at an angle to the water surface. There are four stages in the development of so-called larval *instar*. All mosquito larvae live in water that consists of fourstages. *instar*Fourth instar it can be completed within 4 days - 2 weeks depending on environmental conditions such as water temperature food supplies Soegeng (2003). Larva to pupa takes 6-8 days (MOH, 2008).

7.6 **Pupa or cocoon**

Figure 7.6 Pupa *Aedes aegypti*

The pupa is inactive phase that does not need to eat, but still need oxygen to breathe. For the purposes of breathing pupae were near the water surface. Old pupa hanging with the water temperature and the species of mosquitoes that duration can range from one day to several weeks. After that time melelewati the pupa opens and releases the skin and then *imago* out onto the water surface in a short time ready to fly. Pupa very sensitife to the movement of the water and can not distinguish between male and female. Shape the pupa stage is like a trumpet shape is long and slender Soegeng (2003)

7.7 **Life Cycle**

Mosquitoincluding insects that undergo complete metamorphosis *(holometabola)* because of four stages in the growth and development. Yanag stages experienced by mosquitoes namely egg, larva, pupa and adult. Mosquito eggs will hatch into larvae within 1-2 days at a temperature of 20-40 ° C. Rate of growth and development of larvae is affected by temperature, the place, the state of water and food substances that exist in the breeding places. In optimum conditions, the larvae develop into pupae within 4-9 days and in this condition the mosquitoes did not eat but still requires oxygen taken through breathing tubes *(breathing*trumpet),then pupae into adult mosquitoes within 2-3 days so that the time required from egg to adult is 7-14 days Soegeng (2003).

The air temperature is one of the environmental factors that influence the development of mosquito larvae *of Aedes*aegypti.In general, the mosquitoes will lay their eggs at a temperature of about 20 - 30ºC. Tolerance to temperature depends on the species of mosquito. mosquito eggs seemed to have undergone a complete embriosasi within 72 hours in the air temperature 25 - 30ºC. On average the optimum temperature for growth of mosquitoes is 25 - 27ºC and mosquito growth will stop completely when the temperature is less than 10ºC or more than 40º C.Soegeng (2003).

Air humidity is also one of the environmental conditions that can affect the development of mosquito larvae *of Aedes aegypti.* humidity ranged from 81.5 to 89.5% is the optimum humidity for the survival embriosasi and mosquito embryos. While most potential breeding places in the life cycle of mosquitoes breeding in containers or place used for day - a day like drums, jars, tub, toilet, bucket, and the like Soegeng (2003).

Mosquitoes prefer dark colored breeding place, protected from the sun, wide open surface, containing fresh water is clear and calm. Breeding places (where mosquitoes lay eggs) is located inside or outside the home. Breeding places in the house that shelters tubs of water include a shower, bathtub, toilet water, drinking water containers, jars, water barrel, buckets, and others. The breeding place outside the home, among others, can be found in the drums, cans, bottles, pot scrap, ornamental plant pot filled with rainwater and others. Breeding places can also be found in natural water reservoirs, for example in tree holes and leaf midrib-midrib. Soegeng (2003).

Aedes albopictus breed in containers temporary but prefer containers naturally in forests, such as tree holes, axillary, hole stone and coconut shell, and breed more often outdoors in the garden and is rarely found in the house at the container-made like a barrel and car tires. These species have eggs that can survive in dry conditions but still alive. Sigit (2006).

mosquitoes *Aedes* Femalesuck blood to ripen their eggs. Time foraging (blood sucking) is in the morning or evening. Most species of biting and resting outside the house but in the cities of the tropics, *Aedes aegypti* breeding, suck blood and relax in and around the house. Some are finding

*Aedes*suck the blood inside the house and rest before and after eating outdoors Soegeng (2003).

7.8 The characteristics oflarvae *Aedes aegypti*

7.8.1 shape *siphon* Greatand shortcontained in the last abdominal
7.8.2 shape *comb* like comb
7.8.3 In the thoracicthere *spinestroot*
7.8.4 characteristics of *Aedesaegypti*
7.8.5 Small body shape and on the abdomen there are spots and black.
7.8.6 Do not form an angle of 90º
7.8.7 spread of the disease is the morning or late
7.8.8 life in fresh water as well as in other places, namely cans that can hold rainwater.
7.8.9 Transmission of the disease by dividing themselves.
7.8.10 Causing DHF.

7.9 **Spread of Dengue Cases**

spread of dengue disease in a region must be controlled so that the disease receive proper treatment. Efforts should be made to control the spread of disease by performing vector mapping the disease. Not to the discovery of drugs and vaccines to treat diseasesdengue resultingprevention through chain termination method of transmission by controlling the vector population becomes critical illness (Sigit, 2006).

The spread of cases the disease was first discovered in Manila, Philippines in 1953. The Indonesian case was first reported in Surabaya and Jakarta with the number of deaths as many as 24 people.

A few years later the disease spread to several provinces of the Indonesia, the number of cases as follows: In 1996 the number of cases of 45 548 people, with the number of deaths as many as 1,234 people, in 1998 the number of cases of 72 133 people, with the number of deaths by 1,414 people (an explosion), in 1999, the number of cases of 21 134 people, in 2000 the number of cases of 33,443 people, in 2001 the number of cases of 45 904 people, in 2002 the number of cases of 40 377 people, in 2003 the number of cases of 50 131 people, in 2004 until March 5 in 2004 the number of cases has reached 26 015 people, with the number of deaths as many as 389 people. Department of health. (2008)

According to the MOH (2005), *Aedesaegypti* is widespread in the tropics and sub-tropics. In Indonesia, these mosquitoes spread both in homes and public places. These mosquitoes can live and breed until the height of the area ± 1.000 m above sea level. Above an altitude of 1,000 m mosquito can not breed, because at that height the air temperature is too low, so it's not for the life of the mosquito memunginkan.

7.9.1 Seasonal variations

According to MOH (2005), when the rainy season arrives,mosquito breeding sites *Aedes aegypti* are in the dry season is not filled with water, it will begin to fill with water. The eggs hatch that had not yet had time to hatch. In addition, during the rainy season the more natural water reservoirs are filled with rainwater and can be used as breeding grounds for mosquitoes this. Therefore, in the rainy seasonmosquito population *Aedes aegypti* will increase. The increase in the mosquito population is one of the factors that lead to increased transmissiondisease. *of dengue*

7.9.2 Causes of Dengue

Dengue is caused byvirus *Dengue* with the type DEN 1, DEN2, DEN 3 and DEN 4. The virus termausk in group B *Arthropod borneviruses* (Arboviruses).

The disease is not only found in urban areas, but are also found in rural areas. Modes of transmission of dengue disease occurs propagatif ievirus *dengue* to multiply in the mosquito *Aedes spp* Sumarmo (2005)

causes dengue fever *Aedes spp* besides it is also the yellow fever virus *(yellow*fever)and Chikungunya, *Aedes spp* are diurnal, or active in the morning until noon, at the time of sucking the blood of patients with dengue fever. *Aedes* is a type of mosquito that can carry the virus *hemorrhagic fever* (DHF) or people without symptoms who carry virus *thedengue* in his blood. If this mosquito bites another person, thevirus *dengue* will multiply in the person's body for 4-7 days so it can be a source of infection. Within a week after the mosquito bite, the person will be suffering from fever *denguedengue.*Up to now there is no vaccine for the prevention of dengue disease, and there is no special medicine for treatment. Control depends on controlling dengue mosquito *Aedes spp* (MOH, 2008).

7.9.3 Transmission of Dengue Fever

Dengue can be easily transmitted through vectors of vector, the mosquito *Aedes aegypti* through bites. Althoughmosquito *Aedes albopictus* can transmit dengue but its role in the spread of the disease is very small, because usually live in the gardens. A week after being bitten by *Aedesaegypti* containing dengue virus, then that person will fall ill with dengue fever, or may also stay healthy but it becomes *a carrier* (a source of transmitting the dengue virus store). Soegeng (2003).

Because the mosquitoes that bite people whose blood containingvirus, *dengue* the mosquito throughout life will still contain virus, *thedengue* and at any moment can be transmitted to another person through a bite anyway (bite during the day). If there is a neighbor who suffered from dengue and location of the house was not far from home, it is necessary to be aware of the existence *of Aedesaegypti,*it is because of the ability to fly mosquitoes $\pm$40 m and a maximum flying range of 100 meters. So as soon as possible purge of the shelters in the surrounding water or contact PHC terdekat.Budiyanto, (2008).

So that each person can contract dengue fever after being bitten by *Aedesaegypti* containingvirus. *dengue* Only endurance every one that allows different levels of dengue cases with one another. So that in addition to combating vector-borne and avoid it, it helps everyone keep his immunity so as to avoid cases of dengue. (MOH, RI, 2008).

7.9.4 Points Transmission of Dengue

Dengue Transmission can occur in all the places that are of vector mosquitoes. The potential for dengue transmission occurs is:

7.9.4.1 The area that many dengue cases (endemic)

7.9.4.2 public places are a gathering place for people who come from different areas. These places include:

7.9.4.3 Schools, for children / students of the school come from various regions other than that are the age group most *susceptible* stricken with dengue.

7.9.4.4 Hospitals / health centers and other medical facilities. Because in this case the people who come from different areas and the possibility of them are patients with DHF or virus *denguecarrier.*

7.9.4.5 Other public places such as hotels, shops, markets, restaurants, and places of worship.

7.9.5 New settlement on the edge of town at this location Because of population were from various regions, the likelihood of which there are people or *carrier* that carriesvirus *dengue* different from each location of origin.

7.9.6 The mechanism of transmission of dengue fever

Dengue *hemorrhagic fever* in Indonesiais endemic in both urban (urban) and rural *(rural).* In urban areas of vector-borne primarily *Aedesaegypti* while in rural areas by *Aedesalbopictus.*But it often happens that both species of mosquitoes are found together in one area, for example in the areas that are semi-urban Soedarto, (2009).

transmission *Dengue virus* by mosquitoes are more prevalent in places such as in densely populated urban and rural areas in the suburbs. Therefore, fever *dengue* is more problematic in the area around the cities Yatim, (2007).

Indonesia is an endemic city which annually develops into Extraordinary Events (KLB). In Indonesia there are two vectors that transmit dengue, the *Aedes aegypti* and *Aedes*albopictus.However, at this time, *Aedes aegypti* is the vector that received the greatest attention to the spread of dengue disease for distribution and our close relationship with humans. Achmadi (2008).

According Soegijanto (2006), stages of replication and transmission of *dengue virus* consists of: 1). virus is transmitted to humans through mosquito saliva, 2). viruses replicate in the target organ, 3). virus infects white blood cells and lymphatic tissue, 4). The virus is released and circulates in the blood, 5). virus in the blood to another mosquito sucked, 6). viruses replicate or multiply

in the mosquito's body, and then infect the salivary glands, 7). the virus replicates in the salivary glands *of Aedesaegypti* to then be transmitted back to humans.

7.9.7 Prevention of Transmission of Dengue

prevention against the transmission of dengue can be done with the eradication of larvae and *Aedesaegypti* adults.Aedeseradication *aegypti* Adultis the best way to prevent the spread of dengue virus. Additionally, repellen can be used to prevent mosquito bites (Soedarto, 2009).

7.9.8 Mosquito eradication Adults

Based on data from the MOH (2005), the eradication of adult mosquitoes can be done by spraying (fogging or fogging, which is often referred to as *fogging)*using insecticides.

Insecticides that may be used include insecticides categories:

7.9.8.1 *Organophospate,*for example malathion

7.9.8.2 *Sintetic*pyrethroids,such as lambda *cyhalothrin, cypermetrin,* and

7.9.8.3 *alfametrin*

7.9.8.4 *Carbamat* tool is used to spray the machine *Fog* or ULV machine. To limit the spread ofvirus, *the dengue*spraying takes two cycles with 1-week intervals. In a short time, spraying action can limit the spread ofvirus, *dengue*but this action should be followed by eradication of mosquito-borne jentiknya so that the population can be reduced as low as (MOH, 2005).

7.10 Eradication larvae or larva

According to MOH (2005), the fight against larvae *of Aedes aegypti* is known as the Mosquito eradication nest Dengue *Hemorrhagic Fever* (PSN-DBD) is done by:

7.10.1 Physical

eradication of larvae physically known to the activities of 3M, namely:

7.10.1.1 Drained (and brushing) water reservoirs (TPA) such as bathtubs, toilets, and others once a week on a regular basis to prevent the proliferation of mosquitoes in the area. Depletion shelters water (TPA) needs to be done on a regular basis at least once a week so that mosquitoes can not breed in these places.

7.10.1.2 Closing the household water reservoirs (jars, drums, buckets, etc.).

7.10.1.3 Bury, remove or destroy secondhand goods (cans, tires, etc.) that can collect rain water.

7.10.2Additionally, coupled with other means such as:the

7.10.2.1 Changingwater vase, birdbath or other places similar once a week.

7.10.2.2 Drains and gutters are not smooth or damaged.

7.10.2.3 Closes holes in a piece of bamboo and trees with soil

7.10.2.4 Sprinkled powder larvicides in places where water reservoirs that are difficult drained or cleaned and in difficult areas of water

7.10.2.5 Maintaining fish-eating larvae in ponds or water reservoirs

7.10.2.6 Attach a wire gauze

7.10.2.7 Avoid the habit of hanging clothes in the room
7.10.2.8 Seek lighting and ventilation adequate space
7.10.2.9 Using mosquito nets
7.10.2.10 Drugs Wearingto prevent mosquito bites Overall aforesaid manner known as 3M Plus (MOH, 2005).

7.10.3 Chemistry

According Sumarmo(2005), larval control *of Aedes aegypti* in chemistry is to use mosquito repellent insecticide. Insecticide mosquito repellent is known as larvicides. Larvicides used is *temephos.* Temephos formulations used are *granules* (sandgranules).The dose used is 1 ppm or 10 grams (± 1 tablespoon average) *temephos* for every 100 liters of water. Larviciding with temephos has a residual effect 3 months.

7.10.4Biological

Control of biological larva is using predatory fish as a natural enemy for the larvae. Some types of fish as predators to controllarvae *Aedes aegypti* are *Gambusia affinis* (catfish), *Poecilia reticulata* (guppy fish), *Aplocheilus panchax* (smelts tin), *Oreochromis mossambicus* (tilapia fish), and *Oreochromis niloticus* (Nile tilapia). The use of larvae-eating fish is generally used to control themosquito larvae *Aedes aegypti* in bodies of water such as a pond or in many large water containers. As for the smaller water containers can use *thuringlensis Bacillus var. Israeliensis* as larvae eaters. SUMARMO (2005)

7.10.5 Size Density of Population mosquito-borne

According to MOH (2005), to determine the population density *of Aedesaegypti* in a location to do some surveys in some homes, such as:

7.10.5.1 Survey Mosquito

Survey of mosquitoes is done by catching mosquitoes to feed people in and outside the home, each for 20 minutes per house and catching mosquitoes that land on the wall in the same house. Catching mosquitoes usually done using an aspirator.

7.10.5.2 Mosquito indices used:

7.10.5.2.1 *Biting / Landing Rate:*

$$JumlahAedesaegyptibetinatertangkapumpanorangJumlahpenangkapanxJumlahjampenangkapan$$

7.10.5.2.2*Resting* per house:

$$JumlahAedesaegyptibetinatertangkappadapenangkapannyamukhinggapJumlahrumahyangdilakukanpenangkapan$$

7.10.6 Signs and Symptoms of Dengue Fever

In general, people with symptoms of dengue known spots or rash on the skin when stretched even visible freckles. It has become one of the signs that have been bitten by the mosquito *Aedes*aegypti.Soegeng (2003).

For more alert and follow-up of cases of dengue fever, dengue fever following symptoms:

7.10.6.1 Fever

disease is preceded by a sudden high fever, continuous lasts 2-7 days. Heat can be dropped on the 3rd day and then go up again, and on the 6th or 7th suddenly dropped. If drawn, the graph resembles a saddle horse. Do not wait up to 7 days, hot off the third day remains high, it is recommended to consult with a blood test. Because if in less than 7 days in patients not treated quickly and properly, patients can die.

7.10.7 Dengue Prevention

Appropriate way in the eradication of this disease is to control the vector mosquitoes as transmitters.mosquito vector control *Aedes* can be done by using insecticides or without the use of insecticides. The use of excessive and repeated insecticide can cause undesirable impacts that may arise environmental pollution and poisoning in humans and animals. To reduce the adverse effects of chemicals should be developed medicine mosquito repellent from materials found in nature that are safer for humans and the environment, and its source is available in large quantities.

Utilization of natural insecticides in vector elimination are expected to reduce dengue cases. In addition because it is made from natural ingredients, it is expected that this type of insecticide will be easier decompose *to(biodegradable)* in nature so it does not pollute the environment and are relatively safe for humans and livestock due to residue easily lost. One example is the plant durian*(Duriozibethinus Murr)* Soegeng (2003)

Efforts for the prevention and eradication of dengue disease is most important is to control themosquito *Aedes aegypti* as the main vector. Therefore, the mosquito lives in andaround the houses, the people's participation in the effortvector control *Aedes aegypti* is very critical to its success. Wayprecautions suggested to the community is a programmosquito nest eradication (PSN) by physical or chemical means(MOH RI, 2008).

Mosquito nest eradication (PSN) mosquito nest eradication (PSN) is an attempt to eradicate the dengue mosquito *Aedes aegypti,* is done by the way. Drain by rubbing shelters water at least once a week that aims to damage the eggs of mosquitoes, so the larvae can not become a mosquito or close it tightly so that mosquitoes can not lay eggs in the water reservoirs.

2.10.8.1 Replace the vase water, ant traps, water birdbath once a week with the aim of damaging the eggs and larvae of mosquitoes.

2.10.8.2 Bury it or get rid of second-hand goods and other rubbish that can collect rain water so it does not become breeding grounds for mosquitoes.

2.10.8.3 Prevent items / clothes hanging in the room the room dimly lit or dark.

By doing PSN DBD routinely by all of society, the proliferation of disease in a given region can be prevented or restricted.

8.

BIBLIOGRAPHY

Achmadi (2008) Extraordinary Events dengur Dengue is endemic in Indonesia. Teens Rosdakarya. Bandung.

Aji Rustam Rochmat (2017) Effect of Boiled Carica Papaya Leaf on Death of Aedes Aegypti Larvae.Study Program in Nursing Curup School of Health Polytechnics.Bengkulu.Journal of Epidemiology and Public Health (2017), 2(3):236-240 .https://doi.org/10.26911/jepublichealth.2017.02.03.05.e-ISSN:2549-0273(online).

Aji Rustam Rochmat (2015) Performance of "jumantik" and Incidence of Dengue Hemorhagic Fever in Rejang Lebong District. Study Program in Nursing Curup School of Health. Polytechnics.PPLH.Edisi 5 Desember 2015.Pages 21-24.Journal of Disease Control and Environmental Health.ISSN:2089-2907.

Anif Budiyanto (2008) Characteristics of Existence Containers against Aedes aegypti larva Elementary School Eastern District of Batu Raja Ogan Ogan Ulu, South Sumatra Province.
Arikunto Suharsimi (2002) Management Research. Jakarta. Rhineka Notices.
Capeding Maria Rosario (2011) Dengue in Young Children and Adolescents. Research Institute for Tropical Medicine. Philippines.
Ministry of Health of the Republic of Indonesia (2009) Long Term Development Plan for the Health Sector 2005 - 2025. Jakarta
Director General of Disease Control and Environmental Health (2009) Arrest Flick On Containers. Jakarta
Ministry of Health of the Republic of Indonesia (2008) Distribution of Endemic Diseases in Indonesia (Director General of Disease Control and Environmental Health). Jakarta
Ministry of Health of the Republic of Indonesia, (2000), environmental sanitation efforts residential / public places, in Indonesia healthy indicator 2010. The Director General of Disease Control and Environmental Health. Jakarta.
Bengkulu Provincial Health Office (2012) Health Profile Bengkulu Provincial Health Office. Head of the Communicable Disease Prevention. Bengkulu.
Rejang Lebong District Health Office (2013) Health Profiles Health Department Rejang Lebong. Curup.
Rejang Lebong District Health Office (2012) Health Profiles Health Department Rejang Lebong. Curup.
Rejang Lebong District Health Office (2010) Health Profiles Health Department Rejang Lebong. Curup.
Fathi (2005) Environmental Factors Factor Container is very Acting Against Transmission of Dengue hemorrhagic fever. Purwokerto.
Hadisaputro, (2008) The Environmental Factors Associated with the water reservoir presence of Aedes aegypti mosquito larva in the village Katekan Grobogan.
Hasyimi (2005) Pleasure laying Aedes sp. Mirror World of Medicine No. 92.
Holani Ahmad Wardhanie (1997) Overview Knowledge, Attitudes and Actions On draining, closing and hoarding In Family in the village of Padang Bulan.
Swati Jain, M.K. Mishra, S.K.Gupta, S.S. Agrawal.U.S.Shukla. (2014) Knowledge, attidute

and Preventive Practices Among About Dengue Fever Nursing Student of Tertiary Care Hospital in Delhi. India.
Ministry RI (2013) Development of Anti Mosquito Dispenser In Lowering Dengue Mosquito density. Director General of Disease Control and Environmental Health. Jakarta.
Ketut Suastika, (2012) Analysis of Factors Associated with the presence of Aedes aegypti larva in Puskesmas III South Denpasar.
Lasud (2006) Effect of Container Shelter water with presence of larva of Aedes aegypti.
Ma'mun (2007) Relationship Type Container with existence of Aedes aegypti larva.
Matta S, Bhalla, Singh D, Rasania SK, Sings S (2006) Knowledge, attidute and Practice (KAP) on Dengue Fever: A Hospital-Based Study. Indian. Journal of Community Medicine.2006; 30: 107-12.
Ahmed Jamsheed Mohamed (2014) The Increase in Dengue and Saverity of The Outbreaks is a Global Phenomenon. Southeast Asia.
Muchlastriningsih (2005) Factors Associated with Genesis Dengue hemorrhagic fever and Abatement Efforts in District Cimanggis. Depok. West Java.
Nicolas Duma (2007) factor is draining, shut down and piled with incidence of dengue hemorrhagic fever.
Notoatmodjo Soekidjo (2003) Basic Concepts Behavior and Health Promotion. Jakarta. Rineka Reserved.
Nursalam (2003) Concept and Application of Nursing Research Methodology (Guidelines Thesis, thesis and research instruments Nursing) Jakarta. Salemba Medika.
Prastyowati Heni (2013) Survey Aedes larva and Nocturnal Activity SPP in Travel Market Pangandaran.
Ririh (2012) Relationship of Environmental Condition, Container and Behavior Society with the presence of Aedes aegypti mosquito larva in the Region endemic dengue. Surabaya.
Sigit (2006) Treatment and Eradication of Dengue hemorrhagic fever. Esentia Medica Foundation. Yogyakarta.
Fibriana Siregar (2004) Evaluation Process Monitoring Regional Flick Flick Low Density (Study On Stage Lor village of Semarang.
Soegijanto (2006) Phase Teplikasi Dengue Virus Transmission. Essentia Medica Foundation. Yogyakarta.
Soekirno (2004) Relationship of Use Place the water tank on the Regional Settlement with Vector brood.
Sragen Suresh (2008) Effect of Humidity on the proliferation of Aedes aegypti.
Sukirno, (2004) Patterns of Life Habits Selection Habitat with adult mosquito Aedes aegypti.
Sumekar (2005) Relationship Activity eradication of mosquito breeding, drain, closing and hoarding + Plus with the presence of Aedes aegypti larva
Sumunar (2008) Ae aegypti as the vector of dengue fever based on observations in Nature. Media Litbangkes.Vol.3.
Susanti Dewi (2006) Relationship Behavior (Knowledge, Attitude and Practices) Elimination of mosquito breeding sites by the presence of Aedes aegypti larva in water reservoirs in place Rukun Tetangga.02 / II Village. Tambakaji City Se

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Similarly, a glimpse of the life of the author, hopefully the author's work as author of the book can be useful and add insight to the reader.
Yours Writer
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