NATUROPATHY: AN ALTERNATIVE TREATMENT FOR DENGUE FEVER AND DENGUE HEMORRHAGIC FEVER

GEISHAMINI GOPAL

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This thesis submitted to the Senate of Management and Science University (MSU) has been accepted as fulfillment of requirement for the Degree of Biomedicine (Hons). The members of the supervisory Committee as follows:

Signature:
Supervisor: Pn Syakira Hussein
Date: NOVEMBER 2007

Signature:
Co- Supervisor: Cik Halijah Hassan
Date: NOVEMBER 2007

Signature:
Co- Supervisor: Pn. Samsul Bahriah
Date: NOVEMBER 2007

Signature:
Dean: Prof. Dr. Asbi Ali
Date: NOVEMBER 2007
DECLARATION

I hereby declare that this thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any degree at KUTPM or other institutions.

1st OCTOBER 2007

GEISHAMINI GOPAL
012004110008
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ABSTRACT

Dengue is one of the most important mosquito-borne viral disease affecting humans. In allopathic modalities, there is no specific treatment for dengue except to relieve the patients from the symptoms manifested. These techniques of allopathic modalities are considered totally invasive and causes discomfort to the patients. This study was aimed to assess the affects of Seeds, Beans, Cereals and Vitamins (SBCVs), a non-invasive alternative treatment in treating Dengue. This treatment interrupts the lifecycle of the virus and strengthens the host immune system, resulting in total elimination of the virus. This study was conducted on a total of 21 (60 %) patients who were hospitalized and 14 (40 %) who were not where 20 (57%) patients out of 35 patients were males and 15 (43%) were females. Indians accounted to 19 (55 %), followed by Malays, 12 (34 %) and Chinese, 4 (11 %). Platelet counts before and after subjecting the patients to the treatment was analyzed to assess the effectiveness of the product. The research resulted in a significant increase in platelet count in all patients assessed. The increase ranged between 30,000 (26.8%) to 255,000 (432.2%).Verbal assessment was carried out among the patient showed that 29 (83%) patients were overwhelmed and stated that the treatment is commendable and helped them to regain their health in a short span of 1 to 2 days while the rest commented that this product is beneficial. Conclusively, the study revealed that the natural product made of SBCV is effective against dengue virus and it should be made available to treat dengue fever and dengue hemorrhagic fever in hospitals for confirmed cases and also at home for suspected cases.
Denggi adalah salah satu penyakit yang disebabkan oleh gigitan nyamuk pada manusia. Dalam perubatan allopathy, tiada sebarang rawatan khusus untuk denggi kecuali untuk mengurangkan tanda-tanda penyakit denggi. Rawatan yang menggunakan teknik allopathy ini dikatakan membawa pelbagai ketidakselesaan kepada pesakit. Objektif kajian adalah untuk melihat kesan biji-bijian, kekacang, bijirin dan vitamin sebagai perubatan alternatif yang tidak menyakitan dalam merawat denggi. Rawatan ini dikatakan akan menganggu kitar hidup virus dan menguatkan sistem imuniti pesakit, dan seterusnya menghapuskan virus tersebut. Kajian ini telah dijalankan pada 21 (60%) pesakit yang telah dimasukkan ke wad dan 14 (40%) pesakit yang tidak dimasukkan ke wad, di mana 20 (57%) pesakit daripada 35 pesakit adalah lelaki dan 15 (43%) adalah perempuan. Kaum India adalah sebanyak 19 (55%), diikuti oleh Melayu, 12 (34%) dan Cina, 4 (11%). Kiraan platlet sebelum dan selepas rawatan telah dianalisis untuk melihat keberkesanan produk. Kajian ini telah memberikan peningkatan yang jelas dalam kiraan platelet pada semua pesakit yang terlibat. Peningkatan adalah dari julat 30,000 (26.8%) ke 255,000 (432.2%). Setelah disoal secara lisan, didapati 29 (83%) pesakit menyatakan bahawa mereka kagum dan berpuas hati terhadap kaedah rawatan ini. Selain itu mereka juga menyatakan bahawa produk ini amat berfaedah dan telah membantu mereka pulih dalam jangkamasa yang pendek. Kesimpulannya, kajian ini telah membuktikan bahawa produk semulajadi yang dihasilkan dengan menggunakan biji-bijian, kekacang, bijirin dan vitamin adalah amat efektif dalam penyeringkiran virus denggi. Ia juga boleh digunakan dalam rawatan deman denggi serta deman denggi berdarah di hospital untuk kes-kes yang telah dipastikan dan di rumah untuk kes-kes yang disyaki.
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LIST OF ABBREVIATION

<  Less than
>  More than
%  Percentage
=  Equal to
DEN  Dengue
PPM  Parts per million
SBCV  Seed, Bean, Cereal and Vitamins
RNA  Ribonucleic Acid
DEET  Chemical name: N, N-diethyl-meta-toluamide
IV  Intravenous
DF  Dengue Fever
DHF  Dengue Hemorrhagic Fever
SPSS  Statistical Package for Social Sciences
Pt  Patients
IgG  Immunoglobulin G
IgM  Immunoglobulin M
Hb  Hemoglobin
GH  General Hospital
USD  United States Dollars
HUKM  Hospital University Kebangsaan Malaysia
CHAPTER I

INTRODUCTION

1.1 INTRODUCTION TO DENGUE

Dengue is the most important mosquito-borne viral disease affecting humans. It is caused by the genus *Flavivirus*, where four closely related, but antigenically different viral serotypes (DEN-1, DEN-2, DEN-3 and DEN-4) are involved. Its global distribution is comparable to malaria, and are estimated 2.5 billion people live in areas at risk for epidemic transmission. Dengue fever is the leading cause of hospitalization and death of children in several Asian countries (Bakonyi T, et al, 2004). There are 50 million cases of dengue infection worldwide and more than two billion, of approximately 6.5 billion inhabitants on the planet are at risk for contracting dengue (Breisinger S, et al, 2004).

The virus enters the human body either through direct contact or through a transmitting life form. In the case of dengue fever it is the aedes mosquito, which will utilize the body's matter to survive, reproduce and grow. The dengue virus, having entered the human body through the bite of an aedes mosquito causes the body to become the niche for the virus to reproduce, develop and grow. It moves through the blood stream and localizes itself and replicates in the various target organs, such as the lymph nodes and the liver (Bakonyi T, et al, 2004). The virus is then released into the tissues and it spreads through the body, infecting the white blood cells and other lymphatic tissues. The virus then is released from these tissues and circulates in the blood. This produces the
symptoms of this disease. The symptoms begin to appear an average of four to seven
days after infection which is known as the intrinsic incubation period (Kuno G.2001).

In allopathic modalities of treatment, there is no specific treatment for dengue.
Medical doctors try to alleviate the symptoms of this disease by prescribing bed rest and
also by replacing the fluids that are lost due to the sweating and fever that are brought
about by the disease. Dengue haemorrhagic fever is treated by replacing fluids and on
occasion, blood transfusions are given to replace the blood lost, especially if the patient
has already begun to go into the shock phase where there is spontaneous haemorrhage in
the body. Other than that, medications are also prescribed for the aches and pains (Kuno
G.2001). These techniques of allopathic modalities are considered totally invasive and
causes discomfort to the patients. Thus the aim of this study is to introduce the alternative
treatment for dengue using seed, bean, cereal and vitamin.

From the view point of natural medicine, any attempt to eliminate or control the
virus replication must first understand the terrain in which it operates. This includes its
initial travel pathway, organs where it resides and how it attacks the blood cells
especially the platelets. Just like other living organisms, the dengue virus establishes it
permanent routes of movement (Langgartner J, 2002). The aim of natural medicine
therapy is to disturb its terrain, which includes its travel route, areas in the body where it
resides and replicates. The process is that the pathways must be disturbed in such a
manner that the intelligence that instructs its movement through its established pathways
gets confused, resulting in curbing its growth progress, slowing down its rate of
replication (Prof.Dr.Ananthan,2007) Once this happens, the human body is in a stronger
position to mount an immunological attack against the invading virus.

The products are basically very safe, as their ingredients are spices, beans, cereals
and vitamins. Giving them to suspected dengue patients is harmless and highly
recommended. The postulation is based on the assumption that if thousands of safe
bioactive substances in ppm quantities are released into the blood stream, the appearance
of the terrain of the virus will be transformed, with all the bioactive substances moving in
its pathway. This change in the nature of the virus terrain confuses the viral intelligence, disturbs its route, thwarts its replication rate and slows down its attack on the organs and the blood cells (Prof.Dr.Ananthan, 2007). The scientific basis is that one type of compound, aiming to attack the virus, as in the allopathic viewpoint is insufficient to effect a transformational change in the terrain familiar to the virus. For that reason, allopathic has no effective medicine to disarm the dengue virus.

The clinical findings of this research paper has to be consistent with the postulated hypothesis that multi-molecular natural product treatment approach to disorientate the intelligence of the virus which in return provides an effective and safe therapy for suspected or immunologically confirmed dengue fever cases. More than 20,000 bioactive components contained in ppm quantities in the two products namely Mas Amirtha and Mas Semalu capsules to be taken three times a day, render the virus pathologically ineffective and allow the body's immune system to destroy and eliminate it (Prof.Dr.Ananthan, 2007).

1.2 IMPORTANCE OF RESEARCH

The importance of this research is mainly to create an alternative cure for dengue, as in the allopathic modality of treatment there is no definite cure for it. Through this research the clinical findings of the case studies in this paper seems to be consistent with the postulated hypothesis that multi-molecular natural product treatment approach to disorientate the virus intelligence, provides an effective and safe therapy for suspected or immunologically confirmed dengue fever cases. This research also had helped to develop natural, safe and efficacious formulations to be used for the optimization of human health and wellness.
1.3 **OBJECTIVE**

1.3.1 **General objective:**

1. To develop the systematic body of both ontological and physiological body of knowledge for the practice of natural healthcare and medicine, health education for the healthy, diagnostic methodology and natural remedies for dengue fever.

2. To develop natural, safe and efficacious formulations to be used for the optimization of dengue cases.

1.3.2 **Specific Objective:**

The primary aim of this preliminary outcome driven by natural medicine dengue fever therapy study is to assess the clinical value of safe SBCV natural medicine in the non-invasive treatment of suspected and confirmed dengue fever.

1.4 **HYPOTHESIS**

Natural medicine developed from seed, bean, cereal and vitamins (SBCV) can be used for the prevention and treatment of dengue fever and dengue hemorrhagic fever.
CHAPTER II

LITERATURE REVIEW

2.1 GENERAL INFORMATION ABOUT DENGUE

Dengue is a viral haemorrhagic fever. It is caused by four closely related, but antigenically different viral serotypes (DEN-1, DEN-2, DEN-3 and DEN-4); all of these viruses are genus Flavivirus. When a person becomes infected with one of these four serotypes, it provides immunity only to that one particular serotype for life. With this important fact in mind, it is possible for an individual, who is living in a dengue infested area to contract more than one type of dengue during the span of his or her life (Bakonyi T, et al, 2004).

Dengue fever is a short duration, non-fatal illness, which is characterized by sudden onset of headache, retro-orbital pain, high fever, joint pain and rash. Dengue haemorrhagic fever on the other hand, is characterized by high fever, vascular permeability, bleeding, and enlargement of the liver and circulatory failure (dengue shock syndrome). In the mild and moderate cases of this disease, the signs and symptoms tend to subside after the patient’s fever subsides. In severe cases, the patient’s condition quickly worsens – the body temperature decreases and the circulatory system start to malfunction. Following this, the patient goes into shock and fatal within a day (Bakonyi T, et al, 2004).

This disease is more prevalent in tropical and sub-tropical areas, rather than temperate zones. The four dengue serotypes survive and are transmitted in two cycles between the Aedes aegypti mosquitoes and human. This mosquito is a day feeding, domestic mosquito, which prefers to feed on human blood (Breisinger S, et al, 2004). The mosquito can be easily identified by the white bands or scale patterns on its legs and thorax.
2.2 HISTORY OF DENGUE INFESTATION

A pandemic of dengue began in Southeast Asia after World War II and has spread around the globe since then. Epidemics caused by multiple serotypes are more frequent, the geographic distribution of dengue viruses and their mosquito vectors has expanded, and dengue haemorrhagic fever has emerged in the Pacific region and in Americas. In Southeast Asia, epidemic dengue haemorrhagic fever first emerged in the 1950s, but by 1975 it had caused a frequent cause of hospitalization and death among children in many countries in this region (Breisinger S, et al, 2004).

In the 1980s, dengue fever began a second expansion into Asia when Sri Lanka, India, and the Maldives Islands had their first major dengue epidemics; Pakistan first reported an epidemic of dengue fever in 1994. The epidemics in Sri Lanka and India were associated with multiple dengue virus serotypes, but DEN-3 was predominant and was genetically distinct from DEN-3 viruses previously isolated from infected persons in those countries. After an absence of 35 years, epidemic dengue fever re-emerged in both Taiwan and the People's Republic of China in the 1980s. The People's Republic of China had a series of epidemics caused by all four serotypes, and its first major epidemic of dengue haemorrhagic fever, caused by DEN-2, was reported on Hainan Island in 1985. Singapore also had a resurgence of dengue and dengue haemorrhagic fever from 1990 to 1994 after a successful control program had prevented significant transmission for over 20 years (Breisinger S, et al, 2004). In other countries in Asia where dengue haemorrhagic fever is endemic, the epidemics had become progressively larger in the last 15 years (Bakonyi T, et al, 2004).

In the Pacific, dengue viruses were re-emerged in the early 1970s after a lapse of more than 25 years. Epidemic activity caused by all four serotypes has intensified in recent years with major epidemics of dengue haemorrhagic fever on several islands (Breisinger S, et al, 2004).

Despite of poor surveillance for dengue in Africa, all four serotypes has increased dramatically since 1980. Most activity has occurred in East Africa, and major epidemics were reported for the first time in the Seychelles (1977), Kenya (1982, DEN-2),
Mozambique (1985, DEN-3), Djibouti (1991-92, DEN-2), Somalia (1982, 1993, DEN-2), and Saudi Arabia (1994, DEN-2). Epidemic dengue haemorrhagic fever has not been reported in Africa or the Middle East, but sporadic cases clinically compatible with dengue haemorrhagic fever have been reported from Mozambique, Djibouti, and Saudi Arabia (Bakonyi T, et al, 2004).

The emergence of dengue and dengue haemorrhagic fever as a major public health problem has been most dramatic in the American region. In an effort to prevent urban yellow fever, which is also transmitted by *A. aegypti*, the Pan American Health Organization started a campaign that eradicated *A. aegypti* from most Central and South American countries in the 1950s and 1960s (Chen LH, 2004). As a result, epidemic dengue occurred only sporadically in some Caribbean islands during this period. The *A. aegypti* eradication program was officially discontinued in the United States in 1970 and gradually weakened elsewhere. This resulted in the mosquito re-infesting the same countries from where it had supposedly been eradicated. Due to this factor, the geographic distribution of *A. aegypti* in 2002 was much wider than that before the eradication program (Chen LH, 2004).

Figure 2.1: Figure showing the adult female *Aedes aegypti* (figure adapted from www.denguecycle.com-by roland Mortimer, 1998)
2.3 LIFE CYCLE OF Aedes aegypti

Adult aedes mosquito lays its eggs on stagnant water. When the eggs hatch, it releases the larva. The larva of aedes aegypti takes about four days to develop into a pupa, from which an adult mosquito will emerge after two days. Three days after the mosquito has bitten a person and taken in blood, it will lay eggs, and the cycle begins again.
2.4 MOLECULAR INFORMATION OF THE MOSQUITO

- Single stranded, positive sense, RNA virus
- Size ranges from 37-50nm in diameter
- Unfragmented genome
- RNA has 5' cap but lacks a Poly A 3'tail
- Terminal stem-loop structures
- 10-11 kbp in length
- RNA core complexes with a capsid polypeptide
- Surrounded by a lipid bi-layer envelope
- RNA codes for 3 structural proteins and 7 non-structural proteins

2.5 STATISTICS

- In 2005, dengue is the most critical mosquito-borne viral disease affecting humans; its global distribution is comparable to that of malaria, and an estimated 2.5 billion people live in areas at risk for epidemic transmission.
- In 2001 more than 600,000 cases of dengue were reported in the America. 15,000 were dengue haemorrhagic fevers. This figure is more than two times higher in 1995.
- In 2001, there were 400,000 cases reported in Brazil, 670 of those were dengue haemorrhagic fevers.
- 500,000 people with dengue haemorrhagic fever need hospitalization each year.
- More than two billion out of approximately 6.5 billion inhabitants on the planet are at risk for contracting dengue.
- Dengue haemorrhagic fever is the leading cause of hospitalization and death in children in several Asian countries.
- There are 50 million cases of dengue infection worldwide. (Breisinger S, et al, 2004)
2.6 ROUTES OF TRANSMISSION

As mentioned in a previous section on this paper, this disease is transmitted through the bite of an infected *Aedes aegypti* mosquito. The transmission of the dengue virus begins with a dengue-infected person. This person would have already been in the viraemia stage, where the virus would have been circulating in the blood for about four to five days. During this viremic period, an uninfected female *Aedes aegypti* mosquito bites the person and ingests the infected blood (Chye JK et al, 1997). The mosquito’s saliva is what transmits the virus to humans.

After the blood has been ingested, replication begins inside the mosquito. This extrinsic incubation period lasts between 8 and 12 days. The virus replicates in the mosquito’s mid-gut, the ovaries, nerve tissue and fat body. It then escapes into the body cavity and later infects the salivary glands. The virus replicates in the salivary glands of the mosquito and when the mosquito bites the second person, the cycle continues. It will continue to transmit the disease to every other susceptible person that it bites, during the course of its lifetime (Chye JK et. al, 1997).

The virus then localizes itself and replicates in the various target organs, such as the lymph nodes and the liver. The virus is then released into the tissues and it spreads through the body, infecting the white blood cells and other lymphatic tissues. The virus is then released from these tissues and circulates in the blood (Chye JK et. al, 1997). This produces the symptoms of this disease.

The symptoms begin to appear an average of 4 to 7 days after infection. This is known as the intrinsic incubation period. This period can average from 4 to 7 days, but it is not uncommon for it to range from three to 14 days, depending on the serotype and strain. In humans the viremia begins before the onset of the symptoms. These symptoms can last from three to 10 days, with the average being 5 days. The symptoms may persist for a few days after the viremia has ended (Kerdpanich A et al, 2001)
2.7 REPPLICATION AND TRANSMISSION OF DENGUE VIRUS

1. The virus is inoculated into humans with the mosquito saliva.
2. The virus localizes and replicated in various target organs, for example the local lymph nodes and the liver.
3. The virus is then released from these tissues and spread through the blood to infect white blood cells and other lymphatic tissues.
4. The virus is later released from these tissues and circulates in the blood.
5. The mosquito ingests blood containing the virus.
6. The virus replicates in the mosquito mid gut, the ovaries, nerve tissue and fat body. It then escapes into the body cavity and later infects the salivary glands.
7. The virus replicates in the salivary glands and when the mosquito bites another human, the cycle continues.

2.8 EFFECTS OF THE VIRUS

There are four different known forms of the virus. When infected with one form of the virus, patients typically experience fever, rash, muscle and joint pains. These individuals are rarely at risk of acquiring DHF (Dengue Hemorrhagic Fever) though. Once their body fights off the invading infection, the body acquires immunity to that form of the virus. However, this immunity does nothing to protect the victim against other forms of the virus. In fact, the antibodies make the situation worse when the body comes in contact with a different mutation of the DEN virus. When the body produces antibodies for one form of the Dengue virus, it produces a small amount of antibodies that will recognize the other form of the virus. The problem is that, not enough antibodies are created to signal the immune system to fight off the invasion. Instead, other immune cells, monocytes, take up the virus. This allows the virus to infect the monocytes, something that does not happen when the body is infected with its first Dengue infection. In essence, the disease is different the second time around. This time, the infection is much more serious, usually resulting in Dengue Hemorrhagic Fever. This form of the illness causes a weakening of the blood vessel walls, which ruptures and cause internal bleeding. The disease requires
hospitalization for half a million people, where every year 25 thousand of them die (Breisinger S, et al, 2004).

Most viral infections can only be fought off by the body's immune system. In fact, the only viral infection that science has cured has been through the use of vaccinations. This raises the obvious question: Why isn't a vaccination being developed? There are several reasons. The first is that a vaccination against one strain of the DEN virus would protect the individual from that strain, but would mean that invasion by a different strain of DEN would result in Dengue Hemorrhagic Fever. So a vaccination would have to be used for all forms of the virus. Even if this were to occur, there would still be one other severe problem with the vaccination. The effectiveness of the body's immunity through the use of vaccinations declines over time. However, it would not be possible to determine at what point the body's immunity would require a booster without running human trials. If the immunity did get too low, the patient would again acquire DHF, because of the minimal resistance still being afforded by the body system (Breisinger S, et al, 2004).

2.9 DIAGNOSIS OF DENGUE

When diagnosing dengue, it is possible to confuse it with other diseases such as malaria, typhoid, measles and rubella. This is why it is important for medical personnel to be able to diagnose this disease, quickly and correctly – there is a very short time span between the time of infection and the time of death for this disease.

In the clinical evaluation of dengue fever, one should look at the blood pressure, pulse, evidence of bleeding in the skin as well as in other sites, the hydration status, and evidence of increasing vascular permeability, as evidenced by pleural effusions or ascites and finally the tourniquet test.

The tourniquet test is a test that is done specifically for the detection of dengue fever. The test assesses the capillary fragility. This test is carried out using a blood pressure cuff.
The cuff is placed round the patient’s forearm and is then inflated to a pressure that is between the patient’s most recent systolic and diastolic pressure. The cuff is left in place for five minutes. After this time has passed, the cuff is removed and the skin is allowed to return to its normal colour. A positive test is achieved when there are more than 20 petechiae per square inch.

In a clinical laboratory test, full Blood Count (FBC) will be carried out where the White Blood Cell Count (WBC), Platelets count and Haematocrit level will be carefully analyzed. Other tests which will be done on dengue fever patients are such as albumin test, liver function tests and urine test. Urine test is been carried out to checks for microscopic haematuria (traces of blood present in the urine). In dengue specific tests, virus isolation and serology, such as the IgM ELISA are used. In the FBC for patients with dengue, the leukocyte count is often low and the patient is neutropenic.

The clinical examination and the clinical laboratory tests are what are usually done when a patient comes in and presents with the signs and symptoms of dengue. The dengue specific tests are done when the medical practitioner is not sure which strain or serotype of the virus they may be dealing with. This is useful in the unfortunate of an epidemic – medical personnel need to know what they are dealing with so that they can find the best way possible to combat it.

2.10 NATURAL TREATMENT FOR DENGUE

The philosophy of Natural Healthcare and Medicine subscribes to the belief that the cosmic energy is the creative essence and life empowering force of the universe or cosmos. This energy through its own inherent natural intelligence assumes various forms, changes its form continuously from the energy dimension to the material dimension. The energy itself is neither created nor destroyed but takes various forms and moves through waves, such as electromagnetic waves, light waves and other unknown means yet to be fully discovered. Energy's life form varies from very small subatomic particles to
minerals, to plants, animals and human beings. These life forms especially that which is organic in nature, recreates itself to perpetuate its existence.

Viruses are one of the simplest forms of organic life and being a member of the myriad of living forms created by nature, survive by sharing its niche with other life forms. For instance, the Hepatitis B Virus survives in the human body only and perpetuates itself by moving from one human being to another human being through blood and body fluids. Essentially, there is an ecological balance among the living organisms that make up the world of living things. The life form display progressive adaptation through a process of mutation which can result in either better survival of the mutated form or lose out by its inability to survive. (Langgartner J et al, 2004). If the virus gets into human body either through direct contact or through a transmitting life form, in the case of dengue fever, it is the aedes mosquito, it will utilize the body's matter to survive, reproduce and grow.

In the case of the dengue virus, having entered the human body through the bite of an aedes mosquito which has the virus, the body becomes the niche for the virus to reproduce, develop and grow. It moves through the blood stream, and from the natural medicine view point, any attempt to eliminate or control the virus replication must first understand the terrain in which it operates. This includes its initial travel pathway, organs where it resides and how it attacks the blood cells especially the platelets (Prof. Dr.Ananthan, 2007). Just like other living organisms, the dengue virus establishes it permanent routes of movement. The aim of natural medicine therapy is to disturb its terrain, which includes its travel route, areas in the body where it resides and replicates. To disturb its terrain, its pathways must be disturbed in such a manner that the intelligence that instructs its movement through its established pathways gets confused, resulting in curbing its growth progress, slowing down its rate of replication (Prof.Dr.Ananthan,2007). Once this happens the human body is in a stronger position to mount an immunological attack on the invading virus.

How do natural medicine products thwart the dengue virus? The postulation is based on the assumption that if thousands of safe bioactive substances in ppm quantities are
released into the blood stream, the appearance of the terrain of the virus will be transformed, with all the bioactive substances moving in its pathway (Langgartner J. et. al, 2004). This change in the nature of the virus terrain confuses the viral intelligence, disturbs its route, thwarts its replication rate and slows down its attack on the organs and the blood cells. The scientific basis is that one type of compound, aiming to attack the virus, as in the allopathic viewpoint is insufficient to effect a transformational change in the terrain familiar to the virus (Prof.Dr. Ananthan, 2007). For that reason, allopathy has no effective medicine to disarm the dengue virus.

The clinical findings of the case studies in this paper seems to be consistent with the postulated hypothesis that multi-molecular natural product treatment approach to disorientate the virus intelligence, provides an effective and safe therapy for suspected or immunologically confirmed dengue fever cases (Langgartner J. et. al, 2004). More than 20,000 bioactive components contained in ppm quantities in the two products namely Mas Amirtha and Mas Semalu capsules taken three times a day, render the virus pathologically ineffective and allow the body's immune system to destroy and eliminate it. Since it takes a few days to detect the immune cells against the virus, in the blood, it will be medically prudent and logical to initiate the treatment when dengue fever is strongly suspected by the treating physician or healer. Because the products are basically very safe, as their ingredients are spices, beans, cereals and vitamins, giving them to suspected dengue patients is harmless and highly recommended (Prof.Dr. Ananthan, 2007).
2.11 ALLOPATHIC TREATMENT vs. NATUROPATHIC

2.11.1 Allopathic treatment
In allopathic modalities of treatment, there is no specific treatment for dengue. Medical doctors try to alleviate the symptoms of this disease by prescribing bed rest and also by replacing the fluids that are lost due to the sweating and fevers that are brought about by the disease.

Dengue haemorrhagic fever is treated by replacing fluids and on occasion, blood transfusions are given to replace the blood lost, especially if the patient has already begun to go into the shock phase where there is spontaneous haemorrhage in the body (Hirsch JF. et al, 1990).

Medications are also prescribed for the aches and pains. Aspirin is not advised because it contains an ingredient called heparin that is an anti-coagulant – this ingredient prevents the blood from clotting. It also has a thinning effect on the blood. This is not advisable because dengue haemorrhagic fever produces sub-cutaneous bleeding in the body, which presents itself as black and blue markings on the skin. In the very severe cases, blood is known to drip out of the orifices, such as the nose, ears and mouth. Bleeding is very common in areas where the skin cells appear in only one layer, such as in the mouth and nose. The consumption of aspirin will accelerate the bleeding process because of the presence of the heparin (Hirsch JF et al, 1990).

In the cases of the dengue haemorrhagic fever, where there is a presents of rashes, calamine lotion is also sometimes given to stop the effects and to bring comfort to the patient.
2.11.2 Naturopathic Treatment

The treatment modality being used in the study is the SBCV (spices, beans, cereals and vitamins) developed by AK Pharmacy and Naturopathy Centre. The combinations used in the treatment are all natural, with the ingredients used, being derived from everyday spices, beans, cereals and vitamins. (Prof. Dr. Ananthan, 2007). The products are already combined and come in a capsule form, making them easier to take.

The two products that were given to the patients in this case study were Mas Amirtha and Mas Semalu. They both have different properties, that as below:

1. **Mas Amirtha** – This is given primarily for the strengthening and building up of the blood. It works by regulating the biochemical and physiological balances of the body. It also improves the quality and quantity of the blood cells. Mas Amirtha optimizes immunity and helps to maintain a disease refusal state within the body. It has antiviral properties and works to combat fevers caused by bacteria and virus.

2. **Mas Semalu** – This is a natural and mild antibiotic. It is an adjunct treatment for viral fevers. These medications will be given in the dosage of two Mas Amirtha capsules and three Mas Semalu capsules. In more severe cases, the dosage will be increased to three capsules a day for each of them.

<table>
<thead>
<tr>
<th>TREATMENT</th>
<th>MORNING</th>
<th>NOON</th>
<th>NIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mas Amirtha</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Mas Semalu</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 2.1: Table shows the doses of treatment which should be given to dengue patients.
2.12 PREVENTION OF DENGUE

Since dengue is a vector borne disease, the best method of prevention is any method that prevents or hampers the mosquito from carrying out its job. In preventing epidemics, the aim is to reduce the density of the female mosquito population. To date, there have been several methods, chemical, biological and environmental that has been used to prevent the spread of dengue.

Chemical controls are used when targeting the immature or adult mosquitoes. Larvicides are placed into containers, such as water tanks and ponds to kill mosquito larvae. This is done to treat large bodies of water which cannot be drained (Kerdpanich A et al, 2001). It is effective in killing the mosquitoes when they are in the immature aquatic stage.

Ultra low volume (ULV) spraying of insecticides is widely practiced to kill adult mosquitoes. ULV machines uses machines that produce very small particles of insecticide, which are scattered by wind currents. These machines are usually mounted on the backs of trucks or are carried by workers. The insecticide particles must come into direct contact with the mosquito for it to be effective. The *A. aegypti* mosquito tends to reside inside houses, in secluded areas, such as the closets, which are not easily accessible to the insecticide fog from the machines. With this in mind, ULV spraying from vehicles is ineffective. It kills too few mosquitoes and is expensive (Kerdpanich A et al, 2001).

There are some commercial aerosols, which are used in the household that are effective. Some others may develop a “knockdown resistance” where the mosquito is only incapacitated for a few minutes – it falls down but is able to fly away after a few minutes. If this occurs, the mosquito should be killed while it is still unable to fly off (Kerdpanich A. et al, 2001).

Biological controls are not widely used and are primarily in the experimental stage. One option of biological control that is often used is the placing of small fish that eat mosquito
larvae in small containers, such as fountains and 55 gallon drums. Other countries have reported success in controlling the larvae with copepods – small invertebrate crustaceans that feed on first- and second-stage mosquito larvae.

Environmental controls involve the elimination and the controlling of the natural larval habitats where the mosquito lays her eggs and the immature mosquitoes develop. This includes the emptying of water containers or the covering of the containers that are being used, clean up campaigns to dispose of containers that are not being used, and improving the water supply so that there is no need to store water in containers. Since chemical control is restricted to containers that cannot otherwise be drained and biological control is still mostly experimental, environmental methods are considered to be the most effective for the long term control of the *Aedes aegypti* mosquito (Kerdpanich A. et al, 2001).

Since this disease is one that can affect any person in the community, it is important that the community, as a whole, takes on the responsibility of preventing the disease from reaching epidemic proportions. Proper medical talks should be given – the people should know what the various signs and symptoms are for this disease, where they should take the people who are ill and what time frame they have to do it (Prof. Dr. Ananthan, 2007). The medical personnel should also be able to competently diagnose and treat the disease. This is especially important if the community is in an area that is well-suited for a dengue outbreak.

People also need to ensure that if they are outside in a dengue infested location, that they should wear long-sleeved clothing and use a mosquito repellent that contains DEET. DEET is an insect repellent chemical. It is intended to be applied to the skin or to clothing, and is primarily used to protect against insect bites. In particular, DEET protects against tick bites which transmit Lyme disease and mosquito bites which transmit dengue fever (Wikipedia). Unscreened windows and doors should be locked and damaged screens should be replaced (Kerdpanich A et al, 2001).
2.13 **CARE FOR DENGUE PATIENTS**

Patients suffering with this disease should be encouraged to take bed rest. They should be given plenty of fluids. Since this is not a disease that can be transmitted through common touch or through air, there is no need to isolate the patient from family and friends.

Foods that are rich in protein and vitamins should be given so that the patient has the opportunity to rebuild himself and to regain the much needed energy that was lost during the course of the disease (Kerdpanich A et al, 2001).

The patient should also be made as comfortable as possible. He should refrain from going to work until he has recovered from the disease.

2.14 **BRIEF BACKGROUND INFORMATION AND POSTULATIONS ON NATURAL ANTIVIRAL EFFECTS**

Traditionally in Siddha Medicine (Dravidian – Tamil based) and Ayurvedic Medicine (Aryo – Brahmin Sanskrit based) two botanical items has been used in the management of smallpox, chicken pox and measles, all of which are viral diseases (Langgartner J. et. al, 2004).

1. Azadiracha Indica Folium (Neem)
2. Curcuma Longa Radix (Turmeric)

These natural products have been incorporated into the formula which also has many other seeds, all of which are grounded into powder in its original form, not extracts. The prototype formula of Amirtha was developed as a promoter of Disease Refusal State, a terminology used in Siddha Medicine to describe a targeted state of optimum immunity (Amirtha Nilai) (Prof.Dr.Ananthan, 2007).
The use of this product since its trial prototype formulae, developed in 1998, on more than 3,000 patients has shown among others, positive effects in the prevention and management of viral and bacterial infections. Turmeric and Neem in combination with other ingredients in the formulae seems to work in synergy and potentiation. Because there is a total of about 20,000 bioactive principles absorbed into the blood stream in ppm quantities, to study its pharmacokinetic and pharmacodynamic pathway is rather an enormous task but it is not impossible. The study has placed pre-eminent importance on two vital parameters, human safety and clinical outcome (Prof.Dr.Ananthan, 2007). Other parameters taken into consideration are ease of administration and compliance, cost of treatment (affordability).
CHAPTER III

METHODOLOGY

3.1 RESEARCH LOCATION

These sample groups of patients with dengue fever are those who come to the AK Naturopathic Centre, which is located in Puchong to seek treatment.

3.2 SAMPLE

The sample population chosen was thirty-five (35) dengue fever patients who seek alternative treatment and choose the natural product for treatment. These patients were identified and selected carefully based on their sign and symptoms. This research is based on the non-random sampling method, where to be specific the purposive non-random sampling was used. This research particularly conducted on dengue patients were done to see the effectiveness of SBCV in treating dengue fever.

3.3 METHODOLOGY OF THE STUDY

The method which will be used in this study is basically a real time prospective study on dengue fever patients who sought treatment at the Naturopathic Center.

1. A sample group of 35 dengue patients was identified. These patients are those who come to seek treatment from the naturopathic centre.

2. The inclusions was:
   - Confirmed dengue patients
- Adult patient
- Children
- Suspected dengue patients
- Elderly patients

3. The exclusions was:
   - Patients who went through IV administration of platelet

4. A survey was conducted thorough verbal interviews with patients directly and with the founder of naturopathic centre.

Single or double blind controlled studies cannot be conducted on dengue fever patients, the primary clinical objective is to arrest and reverse the infection in the shortest time possible.

- Each referred case will be documented with information provided by the person who came to collect the natural products for treatment.
- Follow up documentation on the progress of the patient will be documented from the information given by the person administering the products supported by periodic blood reports provided.
- The changes in the symptoms and the clinical conditions and clinical outcome of the treatment will be recorded and documented as well.
- The type of treatment provided at the hospital will also be recorded.
  
  Only patients who are not given intravenous platelets will be studied.
3.4 INSTRUMENTS

The instrument which mainly contributed to collection of the data is the self-administered verbal interview questions for infected patients. This method of data collection is to assess the affectivity of natural medicine in treating DF and DHF. The questions asked were based on the physical conditions, signs and symptoms and patients personal opinion on the natural product. A pamphlet on “How to Prevent Dengue” will be given to the patients upon completion of the interview.

3.5 STATISTICAL ANALYSIS

The data which was collected was analyzed by using the Microsoft-excel. The SPSS (Statistical Package for Social Sciences) software could not be used due to the small sample group which is 35 patients.
CHAPTER IV

RESULTS

4.1 DEMOGRAPHIC PROFILE

4.1.1 Gender

Based on figure 4.1, the patients were divided by gender/sex where 57% (20) patients out of 35 patients were males and 43% (15) patients were females.

![Gender Distribution Chart]

Figure 4.1 Distribution of respondents according to sex/gender (N = 35)
4.1.2 Ethnicity

The figure 4.2 below shows that 55% (19) patients were Indians, 34% (12) patients were Malays and 11% (4) patients were Chinese.

Figure 4.2: Distribution of respondents according to ethnicity (N= 35)
4.2 TREATMENT

4.2.1 Patients who administered only natural medicine and those administered natural medicine together with hospital medicine.

Figure 4.3 shows the percentage of patients who administered SBCV alone without any other medication and percentage of patient who took both SBCV and hospital medicine. 71% (25) of patients were those who took only the SBCV natural treatment whereas 29% (10) of patients took the SBCV and hospital treatment together.

![Percentage of Patients Who Administered SBCV and SBCV Together with Hospital Medicines](image)

**Figure 4.3:** Percentage of patients who took only SBCV and SBCV together with hospital treatment.
4.2.2 Hospitalized and Non-Hospitalized Patients

Figure 4.4 below shows the percentage of patients who were hospitalized and non-hospitalized based on the severity of each case. The study was conducted on total of 21 (60 %) patients who were hospitalized and 14 (40 %) patients who were not hospitalized.

Figure 4.4: Distribution of patients who were hospitalized and non-hospitalized
4.3 SYMPTOMS

4.1.1 Symptoms of Dengue

Figure 4.5, shows that the percentage of symptoms experienced by the 35 patients who were closely monitored and studied. Based on observations and clinical symptoms, almost all the patients (100%) who were studied developed fever in the initial stage itself. Rashes are not a common symptom but 75 percent of the patients developed rashes. 100 percent of the patients were weak and lethargic due to dehydration and also other reasons. 90 percent of the patients experienced muscle and joint pain symptoms. 80 percent of the patients who were studied had low blood pressure, due to lack of body fluid.

Figure 4.5: Graph shows the percentage of patients experiencing certain symptoms.
4.4 PLATELET

4.4.1 Platelet Count Before and After SBCV

All the patients who were given SBCV are those with confirmed dengue antigen. Blood test revealed that a drastic drop in their platelet below the normal range (120,000 – 380,000). Figure 4.6 shows the platelet count of patients before the administration of SBCV. Patient one (Pt 1) as per the graph, the platelet count was 50,000 subsequently, Patient two (Pt 2) - 62,000, Patient three (Pt 3) - 90,000, Patient four (Pt 4) - 40,000, Patient five (Pt 5) - 60,000 Patient six (Pt 6) - 112,000, Patient seven (Pt 7) - 42,000 and finally Patient eight (Pt 8) showed 55,000. After the administration of SBCV, the platelet level of these 8 patients increased drastically from the alarming stage into a safe stage.

Figure 4.6: Platelet count of patients before and after SBCV
### Table 4.1: The table shows the summary comparison of Platelet counts of the patients before and after SBCV administration

<table>
<thead>
<tr>
<th>Patient</th>
<th>Before administration of SBCV</th>
<th>After administration of SBCV (after an average of 3 days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient one’s (Pt 1)</td>
<td>50,000</td>
<td>130,000</td>
</tr>
<tr>
<td>Patient two (Pt 2)</td>
<td>62,000</td>
<td>120,000</td>
</tr>
<tr>
<td>Patient three (Pt 3)</td>
<td>90,000</td>
<td>187,000</td>
</tr>
<tr>
<td>Patient four (Pt 4)</td>
<td>40,000</td>
<td>167,000</td>
</tr>
<tr>
<td>Patient five (Pt 5)</td>
<td>60,000</td>
<td>287,000</td>
</tr>
<tr>
<td>Patient six (Pt 6)</td>
<td>112,000</td>
<td>142,000</td>
</tr>
<tr>
<td>Patient seven (Pt 7)</td>
<td>42,000</td>
<td>333,000</td>
</tr>
<tr>
<td>Patient eight (Pt 8)</td>
<td>55,000</td>
<td>214,000</td>
</tr>
</tbody>
</table>

#### 4.4.2 Platelet Count of 2 Patients

*Figure 4.7 and 4.8* shows the platelet count of 15 years of patient who was admitted to Ampang Puteri Hospital due to dengue fever. On the first day of admission (16/11/06) the patient was given natural treatment together with IV administration of saline. On the first day the patients platelet count showed 50,000. On the second day (17/11/06) his platelet count increased to 62,000. On the third day (18/11/06) his platelet count raised up to 126,000. On the 19th of November his platelet increased 144,000, where reached 270,000. There was a drastic increase on the fifth day (20/11/06) where his platelet raised up to 470,000.
1. Thawatchai a/l Eh Pon (Hospitalized)

Figure 4.7: Platelet count of a dengue patient after the administration of SBCV
The table shows the doses of natural treatment and the platelet counts of the patients from the first day of SBCV administration, where the platelet was just 50,000 till the fifth day where the platelet raised up to 479,000.

<table>
<thead>
<tr>
<th>Date</th>
<th>Details</th>
<th>AK Natural treatment Dosages</th>
<th>Platelet Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.11.06</td>
<td>Admitted to Selayang Hospital</td>
<td>Mas Amirtha 1 0 1</td>
<td>50,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mas Semalu 1 0 1</td>
<td></td>
</tr>
<tr>
<td>17.11.06</td>
<td>* increased Semalu intake to 3 times a day</td>
<td>Mas Amirtha 1 0 1</td>
<td>62,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mas Semalu 1 1 1</td>
<td></td>
</tr>
<tr>
<td>18.11.06</td>
<td></td>
<td>- same -</td>
<td>126,000</td>
</tr>
<tr>
<td>19.11.06</td>
<td></td>
<td>- same -</td>
<td>270,000</td>
</tr>
<tr>
<td>20.11.06</td>
<td>Discharged from Hospital</td>
<td>- same -</td>
<td>479,000</td>
</tr>
</tbody>
</table>

Table 4.2: The table shows the doses of natural treatment and the platelet counts of the patients from the first day till the fifth day.
2. **Tirath Singh A/L Kuldip Singh (Non-Hospitalized)**

*Figure 4.8* shows the platelet count of 44 years of patient who was not hospitalized during his bout of dengue. His fever begins to show on the 4th of March 2007. He started SBVC treatment on the 5th of March 2007 due to suspecting of dengue. On the 6th of March the platelet count was 112,000 with negative result for dengue antibodies. On the 11th of March 2007, the platelet count raised to 187,000 and increased more on the 12th of March where in was in the safe level (234,000).

*Figure 4.8: Platelet count of a dengue patient after the administration of SBCV*
TIRATH SINGH A/L KULDIP SINGH

The table shows the doses of natural treatment and the Platelet counts of the patients from the first day of SBCV administration where the platelet was below the normal range but raised up to 234,000 on the 4th day. Below are the laboratory reports of the patient, and various symptoms he experienced and how the treatment worked for him.

<table>
<thead>
<tr>
<th>Date</th>
<th>Details</th>
<th>AK Natural Products Dosages</th>
<th>Platelet Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>04.03.07</td>
<td>Exhibited symptoms of Dengue Fever i.e. headache, joint pains, retroocular pain &amp; fever</td>
<td>Mas Amirtha 1 1 1 Mas Semalu 1 1 1</td>
<td>Unknown * Not admitted to Hospital. Blood test not done.</td>
</tr>
<tr>
<td>06.03.07</td>
<td>- same -</td>
<td>- same -</td>
<td>112,000 Blood test done showed negative for Dengue anti - bodies</td>
</tr>
<tr>
<td>11.03.07</td>
<td>- same -</td>
<td>- same -</td>
<td>187,000 Blood test done showed positive for Dengue anti – bodies</td>
</tr>
<tr>
<td>12.03.07</td>
<td>All symptoms subsided. Patient recovered fully.</td>
<td></td>
<td>Normal</td>
</tr>
</tbody>
</table>

Table 4.3: The table shows the doses of natural treatment and the of Platelet counts of the patients from the first day till the forth day
4.5 TESTIMONIES

4.5.1 Patients testimonial towards this Natural Product (SBCV)

Figure 4.9 shows the testimonial of patients towards the effect of the natural product in developing resistant in their body to fight dengue virus. 29 (83%) patients said that the product is commendable as it helped them to regain their health in a short span of 1 to 2 days. Where as 6 (17%) patients said that this product is beneficial. None of the patients testified SBCV, as not effective or non-beneficial.

Figure 4.9: Figure shows the testimonials of patients towards this natural product in treating dengue.
4.6 KNOWLEDGE

4.6.1 Knowledge on the natural treatment.

Figure 4.10 shows the knowledge of patients towards the natural treatment. 51% (18) of patients said that they have limited knowledge about this natural treatment and the benefits, and 26% (9) of the patients said that they do not have any knowledge on alternative treatments or particularly this natural product. A surprising figure of only 23% (8) of patients was highly knowledgeable about this natural treatment.

Figure 4.10: Percentage of knowledge of patients towards natural treatment for dengue.
4.6.2 Question on “How did you come to know about this natural treatment”?  
In Figure 4.11, the patients were asked on how they came to know about this natural treatment. More than half of them, 54% (19) said that they came to know about natural treatment through friends and family members and 34% (12) of patients said that they heard from media but only 11% (4) of patients said they got to know about this alternative treatment through magazines and books.

![Percentage of Sources From Which Patients Knew About the Natural Remedy](image)

Figure 4.11: Sources from which patients got to know about the natural treatment
4.7 SIDE EFFECTS

4.7.1 Question on “Did the treatment result in any kind of adverse effect or allergy”?

In Figure 4.12, the patients were asked, if the natural treatment has resulted in any kind of adverse effects. 100% (35) of patients who administered SBCV responded that they did not experience any side effects after the SBCV treatment.

Figure 4.12: Percentage of patients who responded “Yes” and “No” to the side effects of SBCV.
4.8  COST

4.8.1  Question on “Does this natural treatment costly”?

Figure 4.13 shows the response of patients towards the cost of the natural treatment. A major group of patients, about 71% (25) said that this treatment is affordable and about 29% (10) consider the treatment is inexpensive. None of the patients who seek treatment at this naturopathic centre commented that the treatment is expensive.

![Feedback of Patients on the Cost of Naturopathic Treatment](image)

**Figure 4.13**: Patient’s opinion on the cost of natural treatment
CHAPTER V

DISCUSSION

5.1 DEMOGRAPHIC PROFILE

5.1.1 Gender

Patients were selected from both genders. Males were higher with 57 \%(20) than females which was 43 \%(15). Patients were selected randomly. All patients who came to seek natural treatment for dengue at the naturopathic centre were taken as samples. However this did not affect the responds of the patients on the effectiveness of SBCV in treating dengue.

5.1.2 Ethnicity

The respondents for this research comes from various ethnics without bias and limitations. As shown in figure 4.2, the highest respondents in this study were Indians 15\% (15), 34\% (12) patients were Malays and 11\% (4) patients were Chinese. This study did not involve patients from other races/ethnicity. The large percentage comes from the Indians. This maybe because the naturopathic centre is based on an Indian background and this treatment seems to be well known among the Indians compared to other races.
5.2 TREATMENT

5.2.1 Patients who administered only natural medicine and those administered natural medicine together with hospital medicine.

The percentage of patients who were under modern medications, and patients who were under natural treatment were studied. The study clearly showed that, whether the patient is treated with hospital medications or otherwise the platelet count still improved after the administration of SBCV. 71% (25) of patients were those who took only the SBCV natural treatment where as 29% (10) of patients took the SBCV and hospital treatment together. The patients undergoing allopathic treatment were given medications to combat the same symptoms, but they spend more time in the hospital. It is important to note that in the naturopathic treatment, no invasive procedure such as IV’s or drips are used. The patients are encouraged to drink as much fluid as possible. With the absence of invasive procedures, the patients are not traumatized, especially if they are young and have a phobia of needles. The above explanation proves that immaterial of a patient consuming allopathic medication or not, with only administration of SBCV the above said symptoms such as fever, body pain, vomiting and rashes can be kept under control. The natural treatment which was offered to the patients speeds up the healing process and reduces the general symptoms whereas; sometimes it is not necessary for the patient to be admitted into the hospital.
5.2.2 Hospitalized patients and Non-Hospitalized Patients

The study was conducted on patients who were hospitalized and non-hospitalized. The research was done on a total of 21 (60%) patients who were hospitalized and 14 (40%) patients who were not hospitalized. Hospitalization and non-hospitalization of patients depends on the severity of each case. Those who were hospitalized were patients who were in critical or severe condition where they reached the dangerous stage of dehydration and need immediate IV administration of normal saline.

Other than that dengue hemorrhagic fever patients are also hospitalized and are treated by replacing fluids on occasion and blood transfusions are given to replace the blood lost, especially if the patient has already begun to go into the shock phase where there is spontaneous hemorrhage in the body. Even though in allopathic modalities, there is no specific treatment for dengue, medical doctors try to alleviate the symptoms of this disease by prescribing bed rest and also by replacing the fluids that are lost due to the sweating and fever that are brought about by the disease. These treatments are given to the hospitalized patients. Another reason for the patient to be admitted in the hospital is because of the low platelet count. When a patient goes to the government hospital for a blood test due to suspected dengue. He/she will be automatically admitted if the blood test shows negative result for IgG and IgM and also a low level of platelet.

Patients who were not hospitalized are those who went to private path labs to do a blood test. When blood test confirmed dengue they choose the natural remedy for treatment. These patients did their blood test every 2 days to monitor their platelet count after the administration of SBCV. However, both hospitalized and non-hospitalized patients continued the SBCV treatment even after they have recovered as advised by the naturopath. This is because blood borne diseases wreck havoc to the internal being. It takes a lot out of the person and at times, the patient / sufferer never regains their health in full and there can be lasting
damages. Follow-up treatment ensures that the virus is fully cleared from the patient and it helps to build the patient vitality (convalescence) and maintains it with sufficient nutrition.
5.3 SYMPTOMS

5.3.1 Symptoms of Dengue

All the patients who were studied experience the symptoms of dengue. Symptoms experienced by the 35 patients were closely monitored and studied. Based on observations and clinical symptoms, almost all the patients (100%) who were studied developed fever in the initial stage itself. Rashes are not a common symptom but 75% of the patients developed rashes. 100% of the patients were weak and lethargic due to dehydration and also other reasons. 90% of the patients experienced muscle and joint pain symptoms. 80% of the patients who were studied had low blood pressure. This is due to lack of body fluid.

There are four different known forms of the virus. When infected with one form of the virus, patients typically experience fever, rash, muscle and joint pains. These individuals are rarely at risk of acquiring DHF (Dengue Hemorrhagic Fever) though. Once their body fights off the invading infection, the body acquires immunity to that form of the virus. However, this immunity does nothing to protect the victim against other forms of the virus. In fact, the antibodies make the situation worse when the body comes in contact with a different mutation of the DEN virus. This allows the virus to infect the monocytes, something that does not happen when the body is infected with its first Dengue infection. In essence, the disease is different the second time around. This time, the infection is much more serious, usually resulting in Dengue Hemorrhagic Fever. This form of the illness causes a weakening of the blood vessel walls, which ruptures and cause internal bleeding. The condition requires hospitalization.
5.4  PLATELET

5.4.1 Platelet Count Before and After SBCV

All the patients who were given SBCV are those with confirmed dengue antigen. Blood test revealed a drastic drop in their platelet below the normal range (120,000 – 380,000). Figure 4.6 demonstrates significant increase of platelet count of selected patients who administered SBCV. The drastic increase of platelet count proofs that upon entering the body, 1000 of SBCV bioactive molecules have disturbed the pathways of the virus in such a manner that the intelligence that instructs its movement through its established pathways gets confused, resulting in curbing its growth progress and slowing down its rate of replication (Prof. Dr. Ananthan, 2007). Once this happens, the human body is in a stronger position to mount an immunological attack on the invading virus. Thus, the platelet count increases.

5.4.2 Platelet Count of two Patients

1. Thawatchai a/l Eh Pon (Hospitalized)

Figure 4.7 is the platelet count of a patient by the name of Tawatchai who is 15 years. This patient was hospitalized in the Ampang Puteri Hospital on 16\textsuperscript{th} November 2006 at 10 am. At this time his platelet count was 50,000. He was put on the treatment of Mas Amirtha and Mas Semalu (SBCVs). Initially he was given one capsule of Mas Amirtha and one of Mas Semalu in the morning and evening. This dosage was increased on the second day to Mas Amirtha 1 0 1 and Mas Semalu 1 1 1. By the morning of the second day, the platelet count had risen to 62,000. By the third day, the platelet count had risen to 126,000. On the fourth day, the platelet count continued to rise and it reached 270,000. The patient was discharged on the 20\textsuperscript{th} November 2006 and his platelet count was 479,000. The
platelet count was taken on regular intervals but only the significant increase was captured as reflected in the graph. He was asked to continue the treatment for the course of one week, after which he was then examined at AK Pharmacy and Naturopathy Centre. During the course of hospital stay no platelets was administered to this patient. The AK Natural Medicine formulae have an arresting effect on the progress of dengue fever within 24 – 48 hours after consumption of the products.

2. Tirath Singh A/L Kuldip Singh (Non-Hospitalized)

This patient Tirath Singh is 44 years old. He was not hospitalized during his bout of dengue. On the 4th March 2007, he noticed the symptoms of headaches, bone and muscle pain and pain in the back of the eyeballs (retroocular pain). These are the warning signs of dengue. This patient was already taking natural medicine from AK Pharmacy and Naturopathy Centre for another condition called prostatitis. He was advised to increase the dosage to one capsule three times daily for both Mas Amirtha and Mas Semalu. His symptoms persisted for six days, during which he had two blood tests done, one on 9th March 2007 and the other on 11th March 2007. The platelet count was taken on regular intervals but only the significant increase was captured as reflected in the graph. The results of the first blood test showed a low platelet count, with negative for dengue antibodies. The second one showed that the platelets were in the normal range, and the dengue antibodies were positive. At this time, the patient was already feeling better.
5.5 TESTIMONIES

5.5.1 Patients testimonial towards this Natural Product (SBCV)

Dengue is a problem and people are worried of their prognosis when they have contracted this disease. Testimonies received from the patients about the natural treatment were all positive. 29 (83%) patients said that the product is commendable as it helped them to regain their health in a short span of 1 to 2 days. Whereas 6 (17%) patients said that this product is beneficial. None of the patients testified as not effective or non-beneficial etc. It is obvious that the naturopathic treatment works because the patients are reported as spending less time in the hospital than those who take the allopathic treatment and they are actually being given something for the symptoms, not just fluids and painkillers. There is the extra added supplement for the health and regeneration of the body. Through the natural treatment, the patients begin to feel better in a shorter period of time. There is a faster alleviation of the aches and pains and those who are hospitalized are discharged sooner. Using allopathic treatment, there have been many deaths from dengue. Most people like to think that the drugs given by the doctors will save them, but in this case there are no drugs. On top of the pain and suffering is the fear of dying from the virus. Through the natural treatment, most patients see results and is pleased with them.
5.6 KNOWLEDGE

5.6.1 Knowledge on the natural treatment

When patients were asked if they are aware of this alternative treatment for dengue 51% (18) said that they have a little knowledge about this natural treatment and its benefits where as 26% (9) of patients said that they do not even have a little idea on alternative treatments or particularly this natural product. It brought to a surprise when only 23% (8) of patient were highly knowledgeable about this natural treatment. Those who seem to know about the natural treatment are those who are highly educated and have a little knowledge on medical field or come from a medical background. However, majority of the patients have heard somewhat a little about this alternative medicine and its benefits. Those who did not know about this treatment, mostly come from a lower level of educational background.

5.6.2 Question on “How did you come to know about this natural treatment”?  

When the patients were asked on how they came to know about this natural treatment, more than half of them, 54% (19) said through friends and family members and 34% (12) of patients said that they heard from media but only 11% (4) of patients said they got to know about this alternative treatment through magazines and books. This naturopathic treatment is not a highly established treatment, thus it is very rarely published, and thus the chances of people coming to know about it through magazines and books are low. Where as majority came to know through friends and relative, who have tried, satisfied and recommended the natural treatment to them. Media also plays a big role in educating people on alternative treatments.
5.7 SIDE EFFECTS

5.7.1 Question on “Did the treatment result in any kind of adverse effect or allergy”?

When patients were asked if the natural treatment has resulted in any kind of adverse effects, 100% (35) of patients who administered SBCV responded that they did not experience any side effects after the SBCV treatment. The naturopathic medicines used by AK Pharmacy and Naturopathy Centre are virtually side-effect free. Since the medicines are made from SBCV products (spices, beans, cereals and vitamins), which all containing fibrous components, it is expected that the side –effect would be a purging of the body in the form of a mild diarrhea. This side effect is not common, but it has been experienced by some patients. It stops once the body has come to a balance with the treatment that is being put into it. This process takes roughly two days. The products used in the naturopathic treatment of dengue are all manufactured from natural substances, from plants and seeds that have been part of our daily cooking recipes from the beginning of time. In the treatment that is given, patients will find something for the pain, something for the fevers and something for the general malaise and weakness that they are feeling. The combinations used in the treatment are all natural, with the ingredients used, being derived from everyday spices, beans, cereals and vitamins. The products are already combined and come in a capsule form, making them easier to take. The patients begin to feel better in a shorter period of time on the natural treatment described in this case. There is a quicker alleviation of the aches and pains and those who are hospitalized are discharged sooner.
5.8 COST

5.8.1 Question on “Does this natural treatment cost a lot”?

The major group of patients responded that the natural product is not expensive and is affordable. This answers of patients maybe due to their preference for natural treatment. 71% (25), has said that this treatment is affordable where as 29 % (10) consider the treatment is cheap. None of the patients commented that the treatment is expensive. The cost for the treatment suggested by AK Pharmacy and Naturopathy Centre costs less than what someone would pay at a normal medical hospital. The cost per treatment at AK Pharmacy and Naturopathy Centre is as follows:

- Mas Amirtha = 1 bottle of 30, 250 mg capsules = 1 x RM40 = RM 40
- Mas Semalu = 1 bottle of 30, 250 mg capsules = 1 x RM30 = RM 30

Since this treatment is required for three weeks, in the most severe cases, the cost that the patient would be paying is RM75 for the whole treatment.

With this breakdown in mind, a patient would have to take only one bottle of each treatment as the capsules are required to be taken thrice daily. This will give enough capsules to deal with the problem as well as to deal with the rehabilitation phase that the patient will go through. In allopathic modality of treatment the patients do not receive any medication proper per say and are only being treated for dehydration and for the aches and pains. This does cut down on the money paid for the drugs, but we must consider the bill that is charged for the stay in the hospital as well as the drips and bags of saline that are used. Average cost of being hospitalized and the treatment is RM 2,154 – RM 8,100 where as the cost of this natural treatment with SBCV is only RM 75 (for the entire month) and no hospitalisation required.
CHAPTER IV

CONCLUSION AND RECOMMENDATION

6.1 Conclusion

The preliminary findings from the prospective case study indicate strongly that the AK Natural Medicine formulated products have an arresting effect on the progress of dengue fever within 24 to 48 hours after consumption. This formula is safe and can be taken only or with conventional symptomatic institutional treatment. Through this study, it shows that noticeable evidence based, positive clinical outcome on institutionalized DF or DHF patients using SBCV products which are comparably much safer for human consumption. The study also strongly reveals clinical burden in terms of physiological trauma of the disease can be drastically reduced. Economical burden in terms of cost can be greatly reduced. Human productivity cost can be saved if hospitalization time is reduced.

The conclusion of the study suggest that the natural product using SBCV is effective against dengue virus and it should be recommended and made available to treat dengue fever and dengue hemorrhagic fever in hospitals for immunologically confirmed dengue fever cases and even for suspected cases.
6.2 Limitation

This research was designed only to study the level of effectiveness of SBCV in the treatment of dengue fever and dengue hemorrhagic fever. The study was limited to only those who came to seek for treatment at the naturopathic centre and other severe dengue cases were not studied due to the limitation of time and cost. Therefore only about thirty five (35) numbers of patients were taken from the naturopathic centre and due to the above, the results obtained could not be concluded as highly significant.

6.3 Recommendation

From these real-time prospective study on patients who sought alternative treatment at the Center, it is strongly recommended that the formulae warrants a more detailed study by the medical establishment to verify and document its clinical efficacy and safety for the treatment of dengue fever. There are an ever increasing number of Dengue patients seeking natural remedy as their preferred treatment. Thus, hospitals should conduct a more detailed study on this subject. The Ministry of Health should work out a plan to investigate the clinical worth of this treatment as such it creates an avenue to initiate Health Technology Assessment on the potential efficacious natural products for the prevention, treatment and management of blood borne viral diseases such as DF and DHF.
REFERENCES


Prof. Dr. Anantha Krishnan. Alternative treatment for dengue fever and dengue hemorrhagic fever/seed, bean, cereal, vitamin. Jan. 2007


http://www.cdc.gov/ncidod/dvbid/dengue

http://www.dhpe.org/infect/dengue.html

http://www.wrongdiagnosis.com/d/dengue_fever/treatments.html


APPENDIX A

Database of Patients with Dengue

AK Pharmacy Naturopathy Centre

<table>
<thead>
<tr>
<th>No</th>
<th>Patient’s Name</th>
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<th>Age</th>
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<th>SBCV</th>
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APPENDIX B

Testimonial Letter from Tirath Singh

17th April, 2007

To,  
Dr. Ananthan Krishnan  
AK Naturopathy Center  
Taman Kinrara, Petaling Jaya,  
Selangor Darul Ehsan.

Dear Dr. Ananthan,

I am writing this letter to thank you for introducing to me a wonderful recipe that has helped me in my fight with dengue recently. I have been taking your spice based recipes Amritha and Semalu daily for some time now as I have a condition called prostatisis and it gives me relief. On the 4th of March 2007, I came down with a severe fever with a temperature of 104 degrees Fahrenheit with all the symptoms of dengue i.e. headaches, bone and muscle pain, pain in the back of the eyeballs.

I consulted you and you asked me to increase the dosage for Amritha and Semalu three times a day. For your information, my temperature was reduced to the normal limits after the fourth day but the other symptoms still remained a little but not that bad for about six days. I was able to conduct myself on a normal basis after this.

During this period I had two blood test done, on the 9th and 11th of March 2007. The first one showed a low platelet count with dengue antibodies, the one on the 11th it showed that my platelets were in the normal range and there were no trace of dengue antibodies. By this time I was already feeling better.

For your information, I was not hospitalized and only saw my regular doctor and had the blood tests done. I recovered so fast and so well because of your spice base recipes and I wish to thank you for creating them.

Yours truly,

Tirath Singh a/l Kuldip Singh
APPENDIX C

Example of Blood Test report

G R I B B L E S    P A T H O L O G Y                        (MALAYSIA) SDNBHD

HEADQUARTERS:
2nd Floor, Wisma KT,
No. 14, Jalan 19/I,
46300 Petaling Jaya,
Selangor Darul Ehsan.

Patient Details
TIRATH SINGH A/L KULDIP SINGH

DOB    : 24/1/61
IC No: 611024065291

Sex: Male
Age: 44 Years

Doctor Details
DR JASPAL SINGH
KELINIK SURGERI JASPAL
2980 PSRN RAJA MUDAMUSA

RAPID DENGUE FEVER SCREEN

Haemoglobin
RBC  147 g/L                                (130-180)
PCV  4.64 x 10X2/L                           (4.50-6.50)
MCV  0.45                                    (0.40-0.55)
MCH  96 fL                                    (78-99)
MCHC 330                                     (300-360)

White Cell Count
Neutrophils  45 %,
Lymphocytes  45 %
Monocytes   10 %
Platelets  112 x 109/L  (150-450)

ESR        10 mm/h     (< 21)

**FILM**: There is a mild leucocytosis. There is a mild lymphocytosis. The red cells show mild anisocytosis. The platelets appear low.

Dengue IgM Antibody  POSITIVE

Dengue IgG Antibody  POSITIVE

Validated by Santina Sahibon

Tests Requested:
RAPID DENGUE FEVER

CC. Drs: JASPAL SINGH
Example of Blood Test report

**FINAL REPORT**

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<th>RESULT</th>
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<td>Platelet Count</td>
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<td>X10^9/L</td>
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10 am give Amitha, 1 and Sembaru

16/11 6pm at Ampang Putri 50,000

17/11 Diam at Ampang Putri 62,000

18/11 Diam at Ampang Putri 126,000

Continue Amitha 10/1 x Sembaru 11

19/11 am at Ampang Putri 270,000

20/11 afternoon discharged - give amitha 101

Follow up on 27/11/05 (1 week later)

Platelet count: 479,000

**END OF REPORT**

* This is a computer generated report. No signature is required. *