

**A study of knowledge, attitudes and practices about
dengue infection of people in Moo 5, Na Wang
Hin Sub-district, Panusanikom District,
Chonburi Province**

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Muangpaisarn P, Chanyavanich P, Chayanupatkul M, Panarat P, Wanchaijiraboon P, Bepinyowong P, Parkpibul P, Swangsak P, Pornmeechai Y, Vimolket T, Kiattisanpipop P, Cheupanich P, Roongsirisangrat P, Vejpongsa P, Eiamprapai P, Wongkhajornkit M, Kwananocha M, Eksaengsri M, Pajongrak M. A study of knowledge, attitudes and practices about dengue infection of people in Moo 5, Na Wang Hin Sub-district, Panusanikom District, Chonburi Province. Chula Med J 2007 May - Jun; 51(5): 281 - 8

Objectives : *The purpose was to study knowledge, attitudes and practices about dengue infection of people in Moo 5, Na Wang Hin Sub-district, Panusanikom District, Chonburi Province.*

Setting : *Moo 5, Na Wang Hin Sub-district, Panusanikom District, Chonburi Province.*

Research design : *A cross sectional descriptive study*

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- Methods** : *The data were collected by interview with open-ended questionnaires which were divided into 8 sections as well as residence inspection for vector sources.*
- Results** : *Of 120 samples collected in 2006, it was found that 3 patients, aged 13 -15 years old, were infected by dengue virus. The general knowledge of dengue infection was 10.4 points from the total of 15 points, whereas 15.83 % of the population were not aware of any symptoms of dengue infection. The attitudes of the majority seem to be good but the survey revealed that only 60 % applied this practical knowledge adequate for control of Aedes mosquitoes. The result showed that the method which the samples can appropriately do was to eliminate stagnant water (78.33 %) and the use of Abate sand (75.00 %). They also revealed the remaining 185 possible sources for mosquitoes' larvae in 82 % of the surveyed residences, mostly in uncovered water containers. The study also showed that House Index (HI) was 21.7. One out of three of the population was never educated. People learned mostly from public health volunteers (37.50 %). The most needed policy was spraying pesticide routinely (54.00 %). Their opinions about dengue infection were that the infection was not a problem in their community (29 %) while 20 % of them thought that dengue virus was difficult to control.*
- Conclusion** : *The factors related to dengue infection in the community was multifactorial which are knowledge, attitudes and practices. In order to control dengue, all of the problems mentioned must be resolved.*
- Keywords** : *Attitudes, Dengue infection, Knowledge, Practices.*

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Received for publication. March 15, 2007.

พุทธ เมืองไพศาล, โปธิ์ จรรยาวิชัย, มณีรัตน์ ขยานุกัทรกุล, พลากร พนารัตน์, ภาสกร วันชัยจิระบุญ, พุฒิพงษ์ เบศรภิญโญวงศ์, เพียงแข ภาคพิบูลย์, ภณิดา แสงวงศ์ศักดิ์, ยศวีร์ พรมีไชย, ทศพร วิมลเก็จ และคณะ. การศึกษาเกี่ยวกับความรู้ ทักษะ และ การปฏิบัติตน ต่อโรคไข้เลือดออกของชาวบ้านในชุมชนหมู่ 5 ตำบลนาวังหิน อำเภอพนสนิมคม จังหวัดชลบุรี. จุฬาลงกรณ์เวชสาร 2550 พ.ศ. - มี.ย; 51(5): 281 - 8

- วัตถุประสงค์** : เพื่อศึกษาเกี่ยวกับความรู้ ทักษะและการปฏิบัติตนต่อโรคไข้เลือดออกของชาวบ้านในชุมชนหมู่ 5 ตำบลนาวังหิน อำเภอพนสนิมคม จังหวัดชลบุรี
- สถานที่ทำการศึกษา** : ชุมชนหมู่ 5 ตำบลนาวังหิน อำเภอพนสนิมคม จังหวัดชลบุรี
- รูปแบบการวิจัย** : การศึกษานี้เป็นการศึกษาเชิงพรรณนา ณ จุดเวลาใดเวลาหนึ่ง
- วิธีการศึกษา** : เป็นการเก็บข้อมูลโดยใช้แบบสอบถามปลายเปิดซึ่งมี 8 หมวดและมีการสำรวจบ้านของผู้ถูกสัมภาษณ์เพื่อหาแหล่งเพาะพันธุ์ลูกน้ำยุงลาย
- ผลการศึกษา** : จำนวนตัวอย่างทั้งหมด 120 ตัวอย่าง โดยในปี พ.ศ. 2549 มีผู้ป่วยติดเชื้อไวรัสเดงกี 3 ราย โดยมีอายุในช่วง 13-15 ปี คะแนนความรู้ทั่วไปเกี่ยวกับโรคไข้เลือดออกเท่ากับ 10.4 คะแนนจากคะแนนเต็ม 15 คะแนน โดยมีตัวอย่างร้อยละ 15.83 ไม่ทราบอาการของโรคไข้เลือดออกเลย ทักษะการปฏิบัติตนเพื่อป้องกันโรคไข้เลือดออก ผลการศึกษาแสดงว่าวิธีที่ตัวอย่างสามารถปฏิบัติได้เหมาะสมมากที่สุดคือ การกำจัดแหล่งน้ำขัง (ร้อยละ 78.33) รองลงมาคือการใช้ทรายอะเบท (ร้อยละ 75.00) นอกจากนี้ยังพบแหล่งที่มีโอกาสเป็นที่เพาะพันธุ์ยุงลาย 185 แหล่งในร้อยละ 82 ของบ้านที่สำรวจทั้งหมด โดยส่วนมากพบภาชนะเก็บน้ำที่ไม่มีฝาปิด นอกจากนี้ยังคำนวณ House Index (HI) ได้เท่ากับ 21.7 และ 1 ใน 3 ของตัวอย่างไม่เคยได้รับความรู้เกี่ยวกับโรคไข้เลือดออก โดยตัวอย่างที่เคยได้รับความรู้ได้จาก อาสาสมัครสาธารณสุข (ร้อยละ 37.50) และมีความต้องการให้ทางภาครัฐมาพ่นควันฆ่ายุงมากที่สุด (ร้อยละ 54.00) ความคิดเห็นเกี่ยวกับโรคไข้เลือดออกพบว่าส่วนใหญ่ (ร้อยละ 29.00) ไม่คิดว่าโรคไข้เลือดออกเป็นปัญหาในชุมชน ขณะที่อีกร้อยละ 20.00 คิดว่าเชื้อไวรัสเดงกีนั้นยากที่จะป้องกันได้
- วิจารณ์และสรุป** : ปัจจัยที่เกี่ยวข้องกับการโรคไข้เลือดออกในชุมชนเกิดจากหลายสาเหตุ ทั้งเรื่องความรู้ ทักษะ และ การปฏิบัติตน ซึ่งจะต้องหาทางแก้ไขในแต่ละสาเหตุต่อไป เพื่อป้องกันโรคไข้เลือดออก
- คำสำคัญ** : ทักษะ, ไข้เลือดออก, ความรู้, การปฏิบัติตน

Dengue infection is a leading public health problem in Thailand. As we know, this disease can lead to death. In 2005, 30,823 people were infected and 71 people died from dengue⁽¹⁾ and 25,374 were infected and 45 died in 2006.⁽²⁾ Although surveillance and public promotion program for dengue control were done regularly, the epidemics still exist.

In Chonburi Province, 2006, we found 74 people with dengue infection among them and 2 people died;⁽²⁾ comparatively, in 2005, 124 people were found with dengue infection and 2 died.⁽¹⁾ Unfortunately, the numbers of the infected and death did not decrease, so it could be possibly reflected that dengue infection was still a serious public health problem in Chonburi Province.

According to our principle: the prevention is more important than the treatment, studying the knowledge, attitudes and practices about dengue infection will be the initial step to find the most effective way for prevention which will lead to sustainable solutions.

We chose the community of Moo 5, Na Wang Hin Sub-district, Panusanikom District, Chonburi Province as our surveillance site.

Materials and Methods

Population and Samples

The population in our study included those who were not younger than 15 years old and lived in Moo 5, Na Wang Hin Sub-district, Panusanikom District, Chonburi Province which approximately had 1,000 people.

Samples

The samples in our study were the people whose age was not less than 15 years old and lived

in Moo 5, Na Wang Hin Sub-district, Panusanikom District, Chonburi Province; they were of good consciousness and were able to give data. Additionally, two samples did not exceed in one family. We calculated the sample size from the following equation: $n = Z_{\alpha}^2 P(1-P)/d^2$, where $P = 0.75$, Z_{α} at 5 % = 1.96 and $d = 0.08$; so $n = 113$. Therefore, 120 samples were selected as a sample size. We divided this community into 4 zones and then randomly selected 30 samples from each zone.

Methods

A cross-sectional descriptive study was carried out by survey using interview with open-ended questionnaires which were divided into 8 sections which were expected to be the related factors. The questionnaires were composed based on demography, epidemiology, fundamental knowledge, attitudes, knowledge and practices about prevention, government roles on prevention, community needs for solving and community opinions for the existent causes of dengue infection.⁽³⁾ Apart from residence inspection for vector sources, the number of the available and possible sources in the survey-day were needed to determine the House Index (HI).

Results

The interviewees were from 120 people, 61.2 % female and 38.8 % male, and their mean age was 51 years old (mode = 35 - 44 years). Most of them were from big families (mode = 5 person/family), farmers and private labors (50 %) while 23 % of them were unemployed. Their average level of education was grade 4 - 6. Only 53 of the populations' families had income higher than their expenses; 8 % of them had no access to any health insurance.

In 2006, it was found that 3 patients, aged 13 -15 years old, were infected by dengue virus. The general knowledge of dengue infection was 10.4 points from the total of 15 points (Figure 1). While 15.83 % of the interviewees were not aware of any symptoms of dengue infection; 90 % of them did not know that they should not use aspirin during the treatment.

The attitudes of the majority seemed to be good but the survey revealed only 60 % applied this practical knowledge of prevention Aedes mosquitoes. To prevent egg lying of the mosquitoes, the result showed that the method which the interviewees could appropriately perform was to eliminate stagnant water (78.33 %), following by 69.17 %, to lid water containers. To eradicate mosquitoes' larvae, the survey found that, the method which the interviewees could appropriately perform to use Abate sand (75.00 %) and keeping fish in water containers (25.83 %). The

survey also revealed the remaining 185 other possible sources of mosquitoes' larvae in 82 % of the surveyed residential area. The possible sources were found mostly in uncovered water containers and utilized pond (Table 1). The study also showed that the residences showed available sources with larvae were up to 26 residential places (29 available sources) from the total of 120 surveyed residences. Hence, the House Index (HI) was 21.7(26/120).

On the issue of governmental roles in dengue-health education, 1 out of 3 of the questioned population had never been educated on the issue. Most people learned from public health volunteers (37.50 %) and medical personnel (20.00 %). Residences receiving Abate sand were 104 out of 120 with 4.8 packs per year and up to 20 % of the householders did not receive enough Abate sand. The residences were sprayed with pesticide 1.82 times per year.

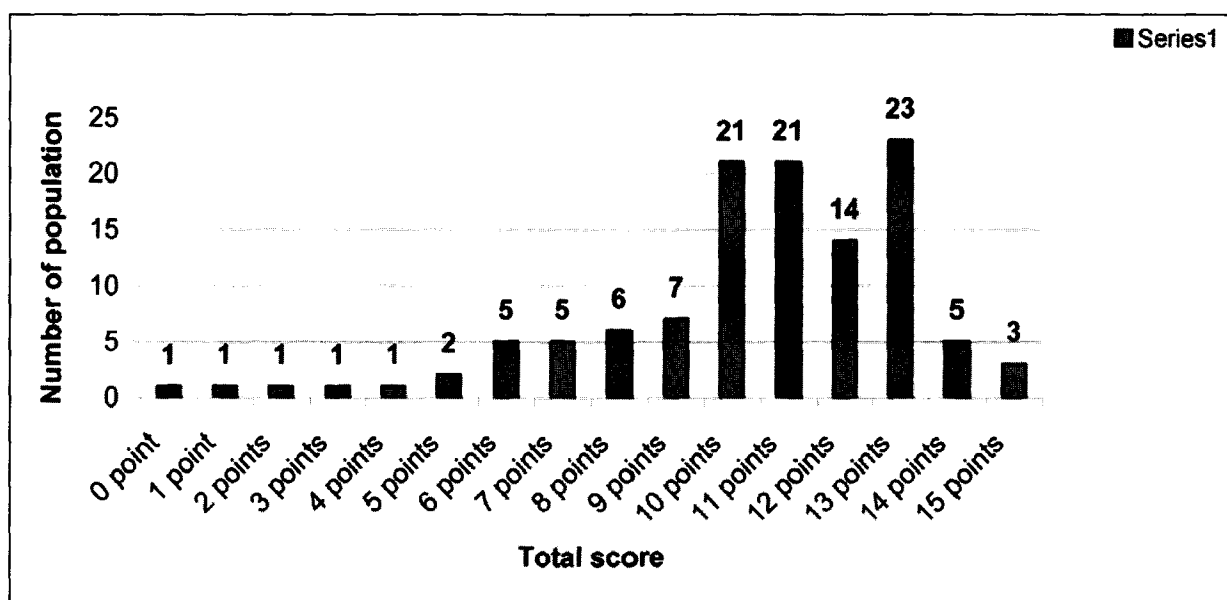


Figure 1. Number of population with each total scores.

Table 1. The number of the available and possible sources for mosquitoes' larvae in the 120 surveyed residences.

Sources	Possible sources [§]	Available sources [†]
Uncovered water containers	67 (36.22 %)	10 (34.48 %)
Utilized ponds	52 (28.11 %)	14 (48.28 %)
Non-utilized areas	23 (12.43 %)	2 (6.90 %)
Flower beds	13 (7.03 %)	0
Agricultural ponds	9 (4.86 %)	2 (6.90 %)
Gutters	9 (4.86 %)	1 (3.44 %)
Old tires	8 (4.32 %)	0
Cupboard-legged water supporters	3 (1.62 %)	0
Others	1 (0.54 %)	0
Total	185	29

[§] Possible sources means any sources which had potentiality to be egg lying area, which may or may not find mosquitoes' larvae in the survey day

[†] Available sources means any sources which we found mosquitoes' larvae in those sources in the survey day

The most needed policy was spraying pesticide routinely (54.00 %), education and Abate sand delivery, (each 16.00 %) and eradication of stagnant water containers (7 %). The most wanted means of health education were local wired communication (38 %), education from medical personnel

(22 %) and leaflet publication (16 %). Their opinions about dengue infection were that the infection was not a problem in their community (29 %) while 20 % of them think that dengue virus was difficult to control. (Table 2)

Table 2. The number of community opinions for the existent causes of dengue infection.

Causes for existence	Number
Was not a problem in community	34 (28.57 %)
Dengue virus	24 (20.17 %)
Myself	19 (16.00 %)
Community	18 (15.13 %)
Environment	10 (8.40 %)
Government	7 (5.88 %)
Others	7 (5.88 %)
Total	119*

* One questionnaires could not be evaluated.

Discussion

From the community health survey at Moo 5, Na Wang Hin Sub-district, Panusanikom Distinct, Chonburi Province, the demographic data showed that most of the respondents (51.2 %) were female and the average age was 50 .The reason that most of the people who responded to the questionnaire were elderly was because we conducted the survey during the daytime when only the elderly people were at home. Half of the respondents were workers and agriculturists and most of them (23 %) were unemployed. The majority of the respondents did not receive education higher than the sixth grade and only half of the residents had enough income to cover their expenditure. The respondents were mostly under the Universal Health Care Coverage Project but 8 % of them were not covered with any health insurance. From the questionnaire we found that there were 3 people, around 13-15 years old, had dengue disease in a year. Additionally, data from the Bureau of Epidemiology^(1, 2) reported a high mortality rate from dengue infection in Chonburi Province, so it was reasonable to study people living in this area. Although more than half of the respondents had some knowledge about dengue, almost none of them knew that aspirin was contraindicated in dengue patients and still some of them (15.83 %) did not have any knowledge about the symptoms. Most of the residents knew that dengue was a serious disease but preventable, and the method they knew and used to prevent dengue was to reduce the availability of Aedes larval habitats, but only 60 % of them had done it correctly. Some of the respondents also thought that using insecticides was a suitable control measure; in fact, it was less effective and merely serves as a short-

term solution. The data mentioned above explained why we still found mosquito breeding sites in 82 % of the residences and 22 % of them had larvae (House Index = 21.7). Only when HI was less than 10, then it would be enough to reduce the incidence rate of dengue⁽⁴⁾, so this area was at risk for dengue transmission and outbreaks. From the aspect of government participation, they should have more appropriate disease preventive strategies by encouraging the residents to understand the process of disease prevention, giving them enough larvicidal sand regularly and promoting them to use alternatives means for mosquito control such as the use of salt with vinegar, removing unnecessary water from containers every 7 days and choosing biological control (e.g. guppies). The data from the survey suggested that most of the residents were not concerned about the problem and thought it was too hard to prevent the disease. Thus, dengue prevention policy would fail if everyone did not understand the seriousness of the problem and had no participation, thinking that it was not their responsibility.

In conclusion, factors related to dengue infection in the community was multifactorial, such as the lack of the knowledge of dengue and information about prevention of the disease, inappropriate control measure, overlooking the existence of the problem and having no realization that it was their problem not others. In order to stop dengue, all of the problems mentioned above must be resolved.

Due to limited financial and human resources, we could not question every house in the sampling frame and could not use probability sampling techniques, so the result interpreted from the small sample size might not represent the target population.

Also, we did not have another area for comparing the studied results. In this study we did not compare the interrelationship between knowledge, attitude and true action statistically, so we could not make an exact conclusion of the leading factor of dengue outbreaks and might obstruct the way to the best solution.

Acknowledgements

The author would like to thank Assistant Professor Somrat Lerdmaharit who helped with statistical analysis and Mrs. Mayuree Jiravisit for her excellent supports. Finally, Dr. Prayoot Meun-na MD, the Director of Panusanikom Hospital and all hospital officers for their excellent assistance.

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