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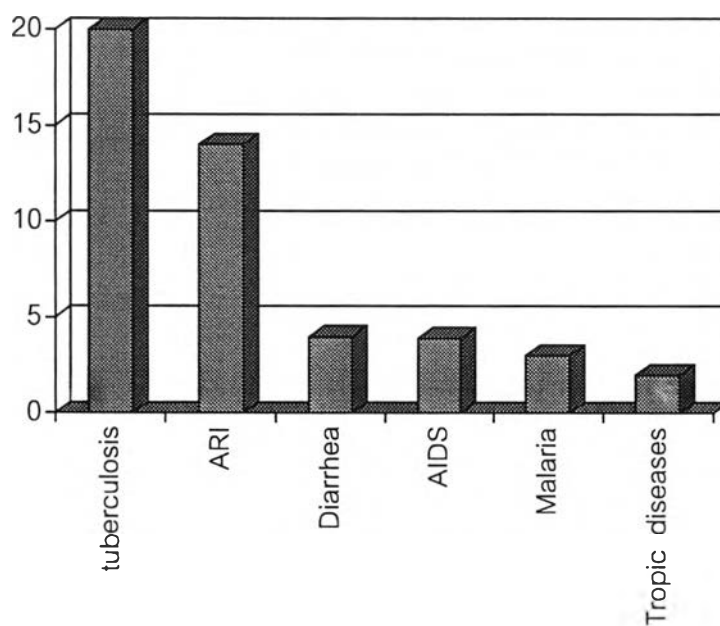
WHO. Fact sheet N 104 (revised) April 2000. Tuberculosis. Social Science Medicine 44.

APPENDICES

Appendix 1

TB is the Leading infectious Cause of Death Among Persons >5 Years Old

Number of deaths (100,000s)



Source : WHO, 1997.

Appendix 2

Estimated number of TB cases* and rates per 100,000 population, world wide 1990,1995,2000 and 2005.**

Region	1990		1995		2000		2005	
	Cases	rate	Cases	rate	Cases	rate	Cases	rate
Southeast Asia	3,106	27	3,499	241	3,952	247	4,454	256
Western Pacific ¹	1,839	136	2,045	140	2,255	144	2,469	151
Africa	992	191	1,467	242	2,079	283	2,849	345
Eastern Mediterranean	641	165	745	186	870	168	987	170
Americas	569	127	606	123	645	120	681	114
Eastern Europe ²	194	47	202	47	210	48	218	49
Western Europe and others ³	196	23	204	23	211	24	217	24
All regions	7,537	143	8,768	152	10,222	163	11,875	178
Percentage increases since 1990.			16.3%		35.6%		57.8%	

¹ Includes all countries in the WHO Western Pacific region except Japan, Australia, and New Zealand.

² Includes all independent state of the former USSR.

³ USA, Canada, Japan, Australia, and New Zealand.

* In thousands

** Crude incidence rate per 100,000 population

Source : TB&HIV quarterly, 1994.

Appendix 3

Estimated HIV – attributable and total TB deaths, assuming regional treatment coverage rates remain at the 1990 level – worldwide, 1990,1995, and 2000.

Region	1990		1995		2000	
	HIV Attribut.	Total TB Death	HIV Attribut	Total TB Death	HIV Attribut	Total TB Death
Southeast Asia	23,000	1,087,000	88,000	1,225,000	200,000	1,383,000
Western Pacific ¹	7,000	644,000	11,000	715,000	24,000	789,000
Africa	77,000	393,000	150,000	581,000	239,000	823,000
Eastern Mediterranean	4,000	248,000	6,000	290,000	15,000	338,000
Americas*	4,000	114,000	9,000	121,000	19,000	129,000
Eastern Europe ²	<200	29,000	<600	30,000	<800	32,000
Western Europe and others ³	<500	14,000	1,000	14,000	2,000	15,000
All regions	116,000	2,530,000	266,000	2,977,000	500,000	3,509,000
Percentage HIV-attributable since 1990.	4.6%		8.9%		14.2%	
Percentage increases since 1990.			16.3%		35.6%	

¹ Includes all countries in the WHO Western Pacific region except Japan, Australia, and New Zealand.

*Includes all countries of WHO's American region except USA and Canada.

² Includes all independent state of the former USSR.

³ USA, Canada, Japan, Australia, and New Zealand.

Source : TB&HIV quarterly, 1994.

Appendix 4

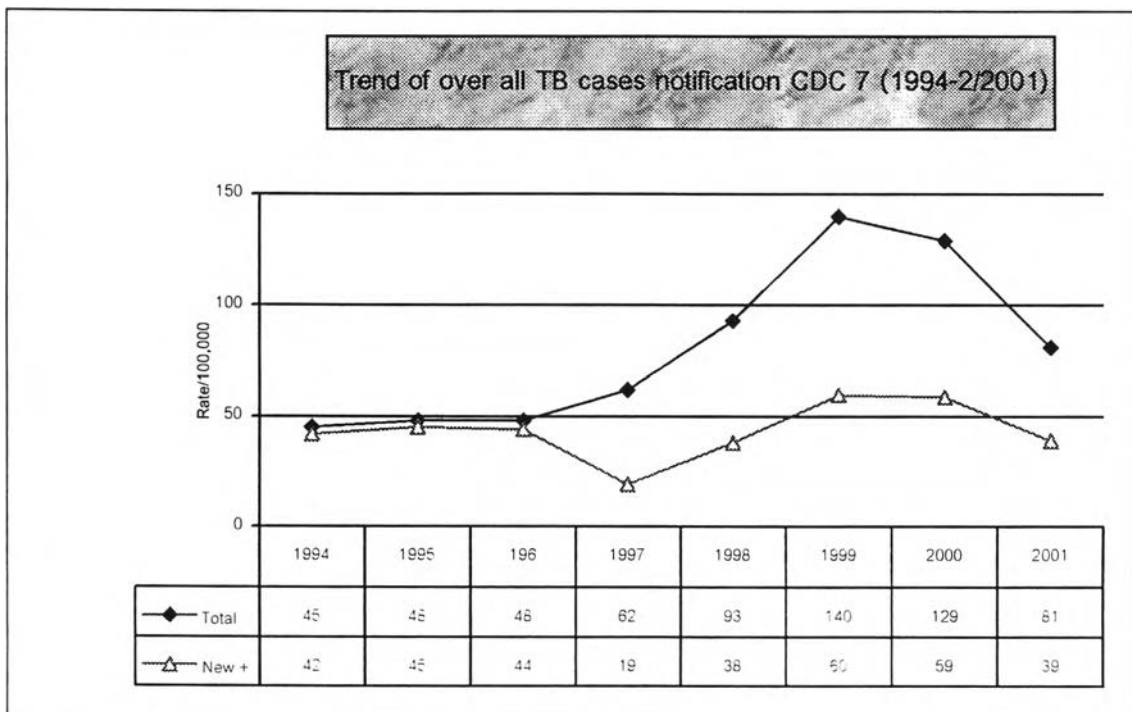
Tuberculosis Cases Notified in the World, latest reports between 1990 and 1994.

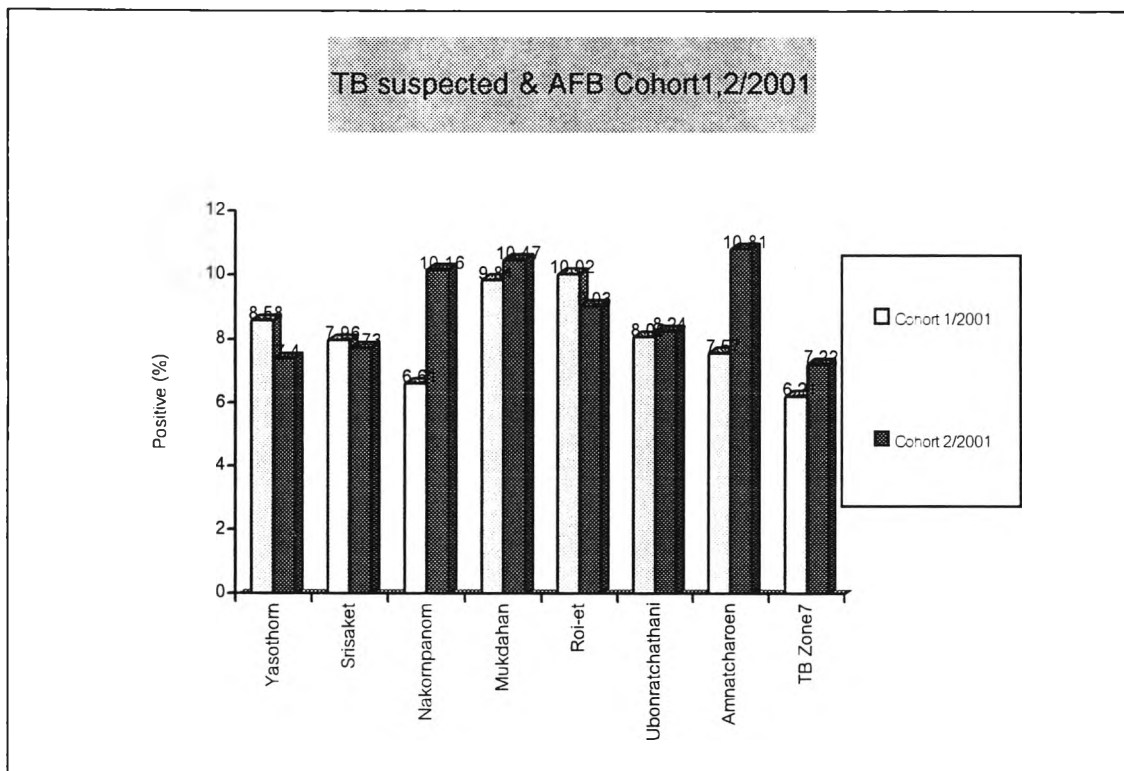
World Health Organization Region	Number of Cases Notified	Rate (per 100,000 population)
Europe	286,608	33.3
America	264,221	34.9
Western Pacific	725,014	45.5
Eastern Mediterranean	237,937	55.2
South - East Asia	1,298,999	94.4
Africa	541,360	96.8
GLOBAL	3,354,139	60.1

Source : WHO, A global emergency, 1996.

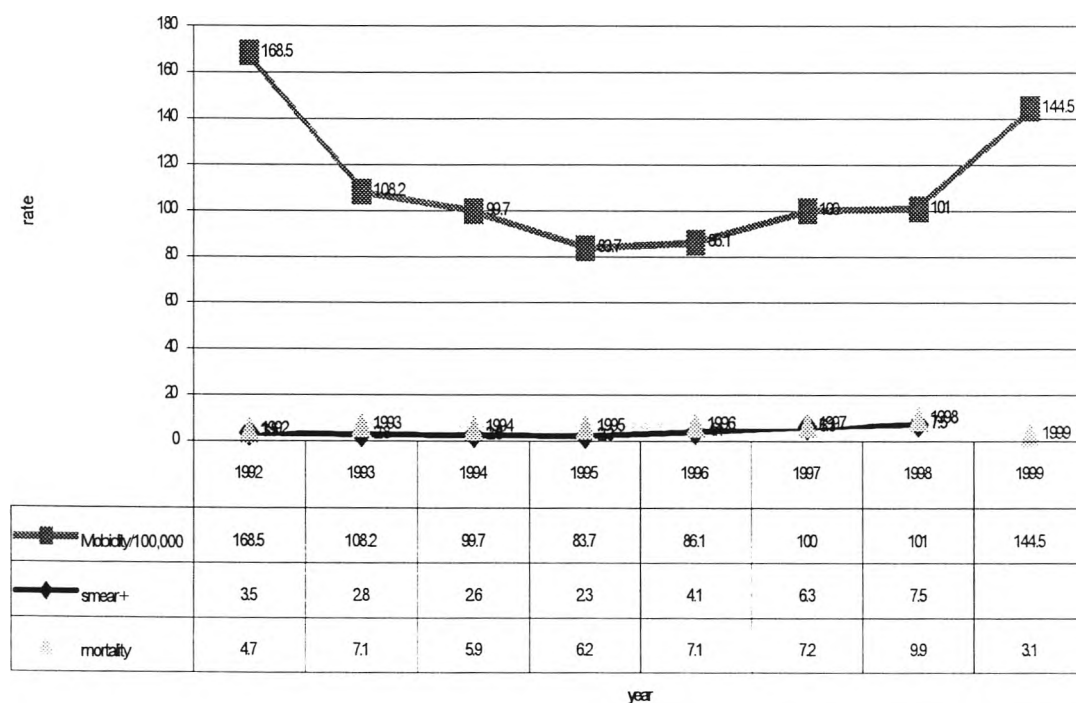
Appendix 5

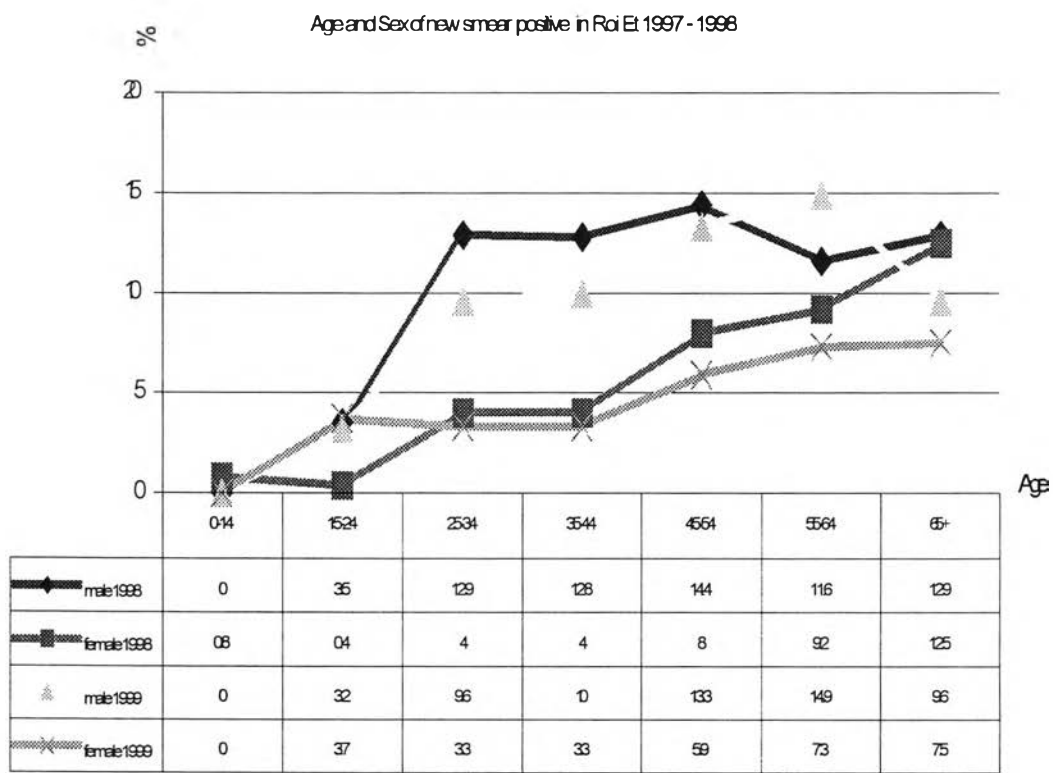
Graph Data





Case finding of smear positive, Mobility and Mortality rate in Roi Et 1992- 1999





Appendix 6

Number of PTB patients with sputum smear positive and used DOTS

item \ No.pt	Cohort 3/40	Cohort 1/41	Cohort 2/41	Cohort 3/41	Cohort 1/42	Cohort 2/42	Cohort 3/42	Cohort 1/43
All M+	311	321	281	330	273	315	338	280
Used DOTS	237 (76.2%)	277 (86.2%)	253 (90.0%)	300 (90.9%)	256 (93.7%)	308 (97.7%)	330 (97.6%)	275 (98.2%)
- by health personnel	11 (4.6%)	21 (7.6%)	32 (12.6%)	6 (2.0%)	18 (7.0%)	27 (8.7%)	59 (17.8%)	83 (30.1%)
- by VHVs	4 (1.6%)	8 (2.8%)	5 (1.9%)	0	1 (0.3%)	2 (0.6%)	7 (2.1%)	14 (5.9%)
- by relatives	222 (93.6%)	248 (89.5%)	216 (85.3%)	294 (98.0%)	237 (92.5%)	279 (90.5%)	264 (80.0%)	178 (64.7%)

Source : Annual report, DOTS in Roi - Et province, June 2000.

Treatment outcome of TB cases new smear positive registered at Roi - et province June - September 1997 - January 1999.

Cohort	Registered	Cure	Complete	Failure	Died	Default	Transfer out
Jun - Sept 1997	248	187 (75.4%)	11 (4.4%)	1 (0.4%)	22 (8.9%)	26 (10.5%)	1 (0.4%)
Oct - Jan 1998	260	206 (79.2%)	3 (1.15%)	3 (1.14%)	25 (9.61%)	19 (7.3%)	4 (1.53%)
Feb - May 1998	236	185 (78.38%)	1 (0.42%)	7 (2.96%)	22 (9.3%)	15 (6.35%)	6 (2.54%)
Jun - Sept 1998	272	212 (77.94%)	2 (0.74%)	5 (1.84%)	20 (7.35%)	29 (10.66%)	4 (1.47%)
Oct - Jan 1999	240	196 (81.66%)	0	2 (0.83%)	25 (10.4%)	16 (6.67%)	1 (0.42%)

Source : Annual report, DOTS in Roi - Et province, June 2000.

Conversion and Cure rate in the study area in 1999

Districts	Conversion rate			Cure rate		
	Cohort 1	Cohort 2	Cohort 3	Cohort 1	Cohort 2	Cohort 3
Phon Thong	83.3	72.22	100	75	83.33	92.3
Pho Chai	85.71	64.29	85.71	85.71	57.14	78.57
Non Phok	93.33	77.78	77.78	86.66	66.77	77.78
Meyavadee	100	100	100	100	100	100
Selaphum	85	84	88.46	78.94	80	88.46

Source : Annual report, DOTS in Roi - Et province, June 2000.

Appendix 7

The 5 elements of the DOTS strategy

1. Political commitment

Political commitment begins with the governments to make TB control a high priority, and also they must be financially committed to long-term. To ensure that all TB patients can have free access to treatment. TB control should be integrated into the existing health system, and supported with leadership from a central TB unit. A well supported NTP will have a programme manual, a training programme in place, a plan of supervision, and a development plan.

2. Accountability

Recording and reporting system is needed to rigorously monitor and evaluate the progress made in treating and curing each TB patient, consist of: TB card, TB register, laboratory register, district TB register and quarterly report (cohort analysis).

3. Adequate supply of anti-TB drugs

A high quality supply of anti TB drugs and adequate throughout of treatment are essential part of the DOTS strategy. To ensure that the treatment of TB patients is never interrupted.

4. Directly observed treatment

Patients must be observed swallowing each dose of their medicines by a health worker or trained volunteer.

5. Diagnosis by microscopy

Case detection by sputum smear microscopy is the most cost – effective method of screening TB suspects. Although the ratio of different types of TB vary according to local situations, the percentage of sputum smear positive pulmonary cases detected by microscopy is usually in the range of 50 - 60 percent ; 35 – 40 percent are sputum smear negative pulmonary cases ; and 10 – 15 percent extra – pulmonary cases.

Appendix 8

Benefit of DOTS

- 1. Cures the patient.**
- 2. Prevents new infections.**
- 3. Stop MDR TB.**
- 4. Cost effective.**
- 5. Extends lives of AIDS patients.**
- 6. Protects the workforce.**
- 7. Protects international travelers.**
- 8. Stimulates economics.**
- 9. Proven effective.**
- 10. Community based participation.**

Appendix 9

**Criteria indicator for diagnosis PTB smear positive follow
as WHO guidelines.**

- 1. sputum smear positive at least 2 samples by direct smear microscopy examination.**
- 2. 1 sputum smear positive and radiographic abnormal relevant to active PTB as determined treat by the physicians.**
- 3. 1 sputum smear positive and culture positive for AFB.**

Appendix 10

Standard regimens for treatment TB with short course

Category	Regimen
1	2HRZE (S) / 4 HR
2	2HRZES / 1 HRZE / 5 HRE
3	2 HRZ / 4 HR
4	Second Line Drugs

H = Isoniacid R = Rifampicin Z = Pirazinamide E = Ethambutol

Dosage of anti TB drugs

Body weight (kgs.)	Intensive phase				continuation phase	
	H	R	Z	E	H	R
< 40	300	300	1000	800	300	300
40 - 49	300	450	1500	1000	300	450
50 >	300	600	2000	1200	300	600

Source : Ministry of Public Health , Management of Tuberculosis.

Appendix 12

WHO target for TB control and performance of TB control in Thailand before DOTS.

activities	WHO target	performance
Cure rate (active case)	85 %	30 – 70 %
Case finding (active case)	70 %	~ 50%

Source : Akkasilp S., 1997.

Appendix 13

Criteria indicators for DOTS achievement

1. Cure Rate > 85 %
 Cure rate =
$$\frac{\text{no. of patients who complete the treatment with 2 negative sputum examination}}{\text{number of patients evaluated}}$$
2. Default Rate < 10 %
 Default Rate =
$$\frac{\text{no. of patients who were registered but did not receive the treatment for 2 or more consecutive months}}{\text{number of patients evaluated}}$$
3. Conversion Rate > 85 %
 Conversion Rate =
$$\frac{\text{no. of patients who sputum positive become negative after 2 month of the treatment or after intensive phase}}{\text{number of patients evaluated}}$$
4. Failure Rate < 3 %
 Failure Rate =
$$\frac{\text{no. of patients whose sputum remain or become positive at the end of 5 th month}}{\text{number of patients evaluated}}$$
5. Relapse rate =
$$\frac{\text{no. of patients whose sputum become positive after being cure}}{\text{number of patients evaluated}}$$
6. Death rate =
$$\frac{\text{no. of patients dying from any cause during the course treatment}}{\text{number of patients evaluated}}$$

Appendix 14

Jobs description for village health volunteers who supervise the TB patients

- 1. Supervise and directly observed the patient taking their medicine everyday.**
- 2. Remark on DOTS card .**
- 3. Mental support the patient and some advises when they have facing some problems.**

Appendix 15

Numbers of new smear positive PTB in the study area 1999.

Districts	Number of new M+	Average /month
Nong Phok	33	3
Phon Thong	43	4
Meyawadee	11	1
Selaphum	45	4
Pho Chai	39	3
total	171	15

Source : Roi- et annual report, 1999.

Appendix 16

The comparison cost of primary treatment versus pre – treatment of MDR - TB

Primary treatment for new smear positive	Pre treatment for MDR - TB
2 HRZE/4HR (CAT1) 6 months ~ 2,300 Baht	Second line drugs K, PAS, OXN (Z, C) etc.24 months ~ 65,870 Baht

Source : Akkasilp S. 1997

Appendix 17

ID No.....

The selection form for select TB patient to study

General data of patient.

Name Gender male female
 Age.....(years) marital status single couple widow separate
 Address House no..... Village no..... Name of Village
 Sub - district..... district province.....
 Occupation agriculture commerce employee GO official other...
 Pregnant history Pregnancy None
 Body weightKg.

TB registered data

Type of TB PTB Extra PTB
 Diagnosis office.....
 Type of registered New Relapse Failure
 Treatment after default
 Transfer in other
 Health service office registered date...../...../..... Nong phok hospital
 Pho Chai hospital
 Phon Thong hospital
 Selaphum hospital
 Meyavadee hospital
 District TB No.....
 AFB result before treatment spot sputum + ++ +++
 collect sputum + ++ +++
 Date/month/year treatment/...../..... category CAT1 CAT2 CAT3
 History of drugs adverse Yes (remark) No
 Dosage (mg. / day) H..... R..... Z.....
 E S.....

Supervisor who supervise the patient taking their medicine.

- Health personal
 Health service office.....
 Village health volunteer
 Relative
 Other

Monitoring form for evaluating performance of Village Health Volunteer supervision the patients (Surprise visit)

Name of patient Mr. Mrs. Miss

Name of VHV Supervisor.....sub-supervisor

1. Who visited you last week ?
 None Have visited name.....amountday.
2. How have you taken anti TB medication ?
 None taken every day some day amount.....day.
3. Who gave the anti TB drugs package to you last week ?
 the patient VHVs. relatives others.....
4. What side effect were you faced after taking anti TB medication ?
 None Have side effect.....
5. How to notify the VHVs when you have occurred side effect ?
 None Notify
6. According to No. 5, how VHVs to help you after notified ?
 None Help
7. The result of anti TB drugs package checking to DOTS card and urine color of the patient.

Intensive phase

- | | | | | |
|-----------------|--------------------------|----------|--------------------------|----------------------------------|
| 1 st | <input type="checkbox"/> | complete | <input type="checkbox"/> | incomplete.....urine color |
| 2 nd | <input type="checkbox"/> | complete | <input type="checkbox"/> | incomplete.....urine color |
| 3 rd | <input type="checkbox"/> | complete | <input type="checkbox"/> | incomplete.....urine color |
| 4 th | <input type="checkbox"/> | complete | <input type="checkbox"/> | incomplete.....urine color |
| 5 th | <input type="checkbox"/> | complete | <input type="checkbox"/> | incomplete.....urine color |
| 6 th | <input type="checkbox"/> | complete | <input type="checkbox"/> | incomplete.....urine color |
| 7 th | <input type="checkbox"/> | complete | <input type="checkbox"/> | incomplete.....urine color |
| 8 th | <input type="checkbox"/> | complete | <input type="checkbox"/> | incomplete.....urine color |

Continuation phase

- | | | | | |
|-----------------|--------------------------|----------|--------------------------|----------------------------------|
| 1 st | <input type="checkbox"/> | complete | <input type="checkbox"/> | incomplete.....urine color |
| 2 nd | <input type="checkbox"/> | complete | <input type="checkbox"/> | incomplete.....urine color |
| 3 rd | <input type="checkbox"/> | complete | <input type="checkbox"/> | incomplete.....urine color |
| 4 th | <input type="checkbox"/> | complete | <input type="checkbox"/> | incomplete.....urine color |

Request form for AFB examination of the patients

Part 1 for the student record

Name of patient MR Mrs. Miss.

Address. House No.... Village No.... sub –district..... District..... province.....

Reason of AFB examination: To evaluate the conversion rate

Type of specimen 1st spot collect date/ month/year. / /
 Type of specimen 2nd spot collect date/ month/year. / /
 Type of specimen 3rd spot collect date/ month/year. / /

Reason of AFB examination: To evaluate the failure rate

Type of specimen 1st spot collect date/ month/year. / /
 Type of specimen 2nd spot collect date/ month/year. / /
 Type of specimen 3rd spot collect date/ month/year. / /

Reason of AFB examination: To evaluate the cure rate

Type of specimen 1st spot collect date/ month/year. / /
 Type of specimen 2nd spot collect date/ month/year. / /
 Type of specimen 3rd spot collect date/ month/year. / /

Part 2 for laboratory technician record

Physical of specimen concentrate : yellow dark sputum with blood
 saliva

AFB examination result Lab serial number.....

Positive ○ + ○ ++ ○ +++

Negative

Name of laboratory technician.....

Part 3 Chest X – ray result at the end of treatment compared to prior treatment and discharged.

Resulted by physician normal improved not improved
 Cavity Non cavity

Discharge

Cure Complete Failure Treatment after default
 Die Transfer out

Questionnaire for Pre and Post –test of VHV.s.

Choose the best answer. Please mark **X** on the alphabet **a b or c**.

1. What is Tuberculosis ?
 - a. A contagious disease caused by virus agent.
 - b. A contagious disease caused by bacterial agent.
 - c. A disease transmitted from genetic.

2. How many types of TB disease ?
 - a. 2 types
 - b. 3 types
 - c. 4 types

3. What kind of TB more impact to the health problems ?
 - a. TB lymph node
 - b. Extra pulmonary TB
 - c. Pulmonary TB

4. What symptoms and signs who suspected has TB ?
 - a. Fever, head ache, vomiting
 - b. Fever, cough, sneeze, body weight loss
 - c. Fever, diarrhea

5. What kind of conveniently method and economical for diagnose pulmonary TB ?
 - a. Chest X - ray
 - b. Sputum specimen for AFB.
 - c. Sputum specimen for AFB and Chest X - ray

6. What main of criteria for diagnosis patient is pulmonary TB ?
 - d. Film chest X - ray only.
 - e. Resulted sputum for AFB and Chest X - ray
 - f. Ultrasonic resulted.

7. What is the currently strategy most effective for TB control as WHO recommendation ?
 - g. Short - course therapy without the person directly observation.
 - h. Short - course therapy with the person directly observation.
 - i. Long course therapy 2 – 3 years.

8. How should we do when their community have occurred the TB patient ?
 - a. We should not participation or relation ship with them.
 - b. Rejecting and force them out of the village.
 - c. Mental supported , some advice for cure the patient.

9. What is the best prevention from TB ?
 - a. BCG vaccination
 - b. Non participate with the patient
 - c. Cure the patient.

10. Who can supervise the TB patient to take their medicine in community ?
 - a. Every one in community: VHV's, monks, wives house , student, etc.
 - b. Health personnel.
 - c. Correct a and b

CURRICULUM VITAE

Name : Supayon Chomputawat

Date of birth : 22 January 1963

Sex : Male

Nationality : Thai

Education : Master of Public Health (Health System Development)
Chulalongkorn University

1986 – 1990 Bachelor of Public Health (Public Health Administration)
Sukhothai Tummatirat Open University

1997 – 1998 Bachelor of Public Health, Sukhothai Tummatirat Open
University

1982 - 1984 Certificate of Public Health, Northeastern College of Public
Health, Khon Kaen Province

Employment :

1996 - Present Sanitarian officer

1984 - 1996 Health Worker, Nong Phok Hospital, Nong Phok District, Roi –
ET Province

Mailing Address : 24 Moo 11 Nong Phok Tambon, Nong Phok District, Roi – Et
Province 45210, Thailand