

CHAPTER IV

RESEARCH RESULTS

Data Analysis Results

This research was conducted by means of a cross-sectional descriptive and analytical study entitled “Treatment Outcomes among New TB Cases and Related Factors in Thung Song District, Nakhon Si Thammarat Province”

The results of the research is presented in tabular form, consisting of 5 parts, as follows:

Part I: General information about the new TB patients.

Part II: Knowledge, attitudes, and behavioral practices about TB and its treatment.

Part III: Interrelationship of healthcare staff and patient satisfaction.

Part IV: TB treatment records.

Part V: Problems and suggestions.

4.1 General Information about the New TB Patients

New smear-positive pulmonary TB patients who were registered from February-September 2003 in Thung Song District consisted of 100 cases. Most of 86.0 percent response cases, 14.0 percent loss, most of death during treatment cause of loss 71.4 percent and Most of AIDS 60.0 percent death during treatment

Table 1: Response Rate

	Response rate	Number	Percentage
Response rate		86	86.0
Loss		14	14.0
Total cases		100	100.0
Cause of loss			
Death during treatment		10	71.4
Transferred out		4	28.6
Total		14	100.0
Cause of death			
AIDS		6	60.0
Accident		2	20.0
TB		2	20.0
Total		10	100.0

The new TB patients who were registered from February-September 2003 in Thung Song District consisted of 65 percent male cases, and 35 percent female cases (table 2). The average age was 44.33 years. Most were between 31-40 years old (43.0 percent) and were married (75.0 percent), while 14.5 percent were single. The other 10.5 percent, which was the smallest group, were widowed, divorced, and separated. Most were breadwinners.

Table 2: Distribution, number and percentage of new TB patients by general characteristics

General Information	Number	Percentage
	(n = 86)	
Gender		
Male	56	65.1
Female	30	34.9
Age		
20-30	5	5.8
31-40	37	43.0
41-50	20	23.3
51-60	8	9.3
61-70	12	14.0
71-up	1	4.7
Mean = 44.33, Median = 41.50, SD=1.438, Max=83, Min = 23		
Marital Status		
Single	12	14.0
Married	65	75.0
Widowed / Divorced / Separated	9	10.5
Family Status		
Breadwinner	33	38.3
Family Member	41	47.3
Dependent	12	14.0

The highest level of education for most of the patients was primary level (grade 6), which was 80.2 percent. The average number of family members was 4.24 people, and 61.6 percent of the families had 1-4 people. 55.8 percent of the patients were agriculturists, while 17.4 percent were general manual workers, and the smallest group, 1.2 percent, consisted of government officials and state enterprise workers, as shown in table 2 (cont.)

Table 2: (Cont.) Distribution, number and percentage of new TB patients by general characteristics

General Information	Number (n = 86)	Percentage
Highest level of education		
< Primary level	0	0.0
Primary level	69	80.2
Secondary level	15	17.2
> Secondary level	2	2.3
Number of family members		
1-4	53	61.6
> 4	33	38.4
* Mean = 4.24, SD = 2.00, Max = 10, Min = 1		
Patient occupation		
Agriculture	48	55.8
General manual worker	15	17.4
Trader / Self-employed	4	4.7
Government official	1	1.2
State enterprise worker	0	0
Company worker	2	2.3
Private sector worker	0	0
Housewife	12	14.0
Other	4	4.7

Table 2 (cont), average patient income was 5,730 baht per month. Most of them could earn 4,001-8,000 Baht per month, but only 9.3 percent of them could earn more than 8,000 bath a month. Most of them could make ends meet but they had no savings (82.6 percent). Only 2.3 percent could save some money.

Most of the health insurance possessed by the patients was gold and 30-baht cards (86.0 percent), while 2.3 percent of them had no health insurance at all.

Table 2: (Cont.) Distribution, number and percentage of new TB patients by general characteristics

General Information	Number (n = 86)	Percentage
Patients' average income	22	25.6
1,000-4,000 Baht	56	65.1
4,001-8,000 Baht	8	9.3
> 8,000 Baht	86	100.0
Total		
* Min = 1,000, Max = 30,000, Mean = 5,730.23, Median = 5,000.0, SD = 3,760.82		
Sufficiency of income compared with expenses		
Sufficient and some left for saving	2	2.3
Sufficient but no savings	71	82.6
Insufficient	13	15.1
Total	86	100.0
Types of health insurance (n = 86)		
30-Baht card	56	65.1
Gold card	18	20.9
Health insurance card	4	4.7
Government official privilege	6	7.0
No insurance at all	2	2.3

According to Table 2, 87.2 percent of the patients were living in administrative areas, while 82.6 percent found coming to the hospital convenient, and 60.5 percent of them spent 30 minutes to an hour coming for medical services, while 37.2 percent spent more than 30 minutes traveling to hospital. The travel expense cost 58.1 percent of them 50-100 Baht, while 4.7 percent of them spent 100 Baht on travel costs.

Table 2: (Cont.) Distribution, number and percentage of new TB patients by general characteristics

General Information	Number (n = 86)	Percentage
Residential area		
Municipal area	11	12.8
Local administrative area	75	87.2
Convenience of coming for medical services at the hospital		
Convenient	71	82.6
Inconvenient	15	17.4
Time spent coming for medical services at the hospital		
< 30 minutes	32	37.2
30 minutes-1 hour	52	60.5
> 1 hour	2	2.3
Money spent coming for medical services at the hospital		
< 50 Baht	32	37.2
50-100 Baht	50	28.1
> 100 Baht	4	4.7

Based of Table 2 (cont), 86.0 percent of the patients came for medical services by themselves, and 95.3 percent of them gave their ailment information to their relatives. 86.0 percent of them were living with their relatives while they were ill, and 96.5 percent of them said that their relatives had a good attitude toward them and showed no signs of stigma, while 88.4 percent said that the people in the communities had good attitudes toward them and showed no signs of stigma.

Table 2: (Cont.) Distribution, number and percentage of new TB patients by general characteristics.

General Information	Number (n = 86)	Percentage
Traveling for medical services		
Came on their own	74	86.0
Accompanied by relatives	11	12.8
Other	1	1.2
Giving sickness information to relatives		
Notified	82	95.3
Did not notify	8	4.7
Who were they living with when they were sick?		
Alone	11	12.8
Staying with friends	1	1.2
Staying with relatives	74	86.0
Did their relatives show any signs of stigma?		
Never	83	88.4
Sometimes	3	3.5
Did the people in the community show any signs of stigma?		
Never	76	88.4
Sometimes	10	11.6

As shown in Table 3, 96.5 percent of the new TB patients in Thung Song District knew that they could be completely cured of TB if they had knowledge of TB and its treatment, while 91.9 percent of them knew TB had to be cured by various kinds of drugs. 80.2 percent possessed incorrect knowledge of the fact that DOTS would speed up the cure and that a complete cure could only be determined by a negative sputum examination. All in all, most of the TB patients' levels of knowledge were quite good (77.4 percent).

Table 3: Number and percentage of TB patients by knowledge of TB and its treatment.

Statement	Correct		Incorrect	
	Number	Percentage	Number	Percentage
1. TB is a kind of air-borne infectious disease.	65	75.6	21	24.4
2. TB is a serious disease and the patients will not cure on their own.	74	86.0	12	14.0
3. TB is a disease that can be completely cured.	3	96.5	3	3.5
4. It will take at least 6 months to cure TB.	78	90.7	8	9.3
5. Treating TB requires various kinds of drugs.	79	91.9	7	8.1
6. Other patients who develop TB can take your drugs without being examined or diagnosed by a physician.	71	82.6	15	17.4
7. While taking anti-TB drugs and having a drug allergy, patients must consult a physician or healthcare staff.	70	81.4	16	18.6
8. During treatment, patients must have a sputum examination according to the doctor's appointment.	78	90.7	8	9.3
9. If treated with DOTS, patients will probably recover more quickly.	17	19.8	69	80.2
10. Only a negative sputum examination can determine a complete cure.	51	59.3	35	40.7

Mean=7.74, SD=1.51, Max = 10, Min = 4

Table 4 shows that 66.3 percent of the TB patients had good knowledge of TB and its treatment, while 12.8 percent had poor knowledge (see Chapter 3 for definitions of these 3 levels of knowledge).

Table 4: Number and percentage of TB patients by level of knowledge of TB and its treatment

Level of Knowledge	Number (n = 86)	Percentage
Good	57	66.3
Moderate	18	20.9
Poor	11	12.8

Table 5 shows that the TB patients had the right attitudes toward the fact that TB patients with serious conditions would die without proper medical treatment with an average of 4.29, while the notion that TB was a body-deteriorating disease had an average of 4.21. Patients had the most incorrect attitudes for the notion that TB patients could share their anti-TB drugs with other people, with an average of 1.75, while the belief that patients could stop taking anti-TB drugs if they got better without the doctor's permission had an average of 1.96. The most scale of positive attitude were level equal 59 percent and negative 32 percent. The attitude levels of the TB patients were rather low, with an average of 33.7.

Table 5: Number and percentage of TB patients by attitudes towards TB and its treatment

Statement	Attitude level: number(%)					Mean
	5	4	3	2	1	
1. People with chronic coughing do not dare to have a sputum examination because they fear they will develop TB.*	12 (14.0)	13 (15.1)	9 (10.5)	40 (46.5)	12 (14.0)	2.69
2. People developing TB should not share accommodation with other people.*	13 (15.0)	29 (33.7)	5 (5.8)	7 (8.1)	7 (8.1)	3.10
3. TB patients with serious conditions will surely die without proper medical treatment.	44 (51.2)	30 (34.9)	5 (5.8)	7 (8.1)	0	4.29
4. TB is a body-deteriorating disease.	25 (29.1)	57 (66.3)	1 (1.2)	3 (3.5)	0	4.2
5. No coughing can determine a complete cure.	11 (12.8)	29 (33.7)	35 (40.7)	9 (10.5)	2 (2.4)	3.34
6. TB patients can share their drugs with other people.*	5 (5.8)	1 (1.2)	1 (1.2)	40 (46.5)	39 (45.3)	1.75
7. TB patients should come to see the doctor as appointed despite their improved condition	37 (43.0)	35 (40.7)	6 (7.0)	8 (9.3)	0	4.17
8. Increasing and decreasing anti-TB drugs makes cure more difficult	30 (34.9)	39 (45.3)	8 (9.3)	4 (4.7)	5 (5.8)	3.99
9. DOTS can benefit patients	30 (34.9)	39 (45.3)	8 (9.3)	4 (4.7)	5 (5.8)	3.99
10. TB patients can stop taking anti-TB drugs if they get better, regardless of the doctor's disappointment	5 (5.8)	9 (10.5)	1 (1.2)	34 (39.5)	37 (43.0)	1.96
Total	212 (25.4)	281 (33.7)	79 (9)	156 (18.7)	107 (12.8)	

Mean = 33.70, SD = 3.43, Max = 41, Min = 22

5= strongly 4 = agree 3= unsure 2 = disagree 1 = strongly disagree

* Negative Attitudes

Table 6 shows that 43.0 percent of the TB patients had moderate attitudes towards TB and its treatment, while 12.8 percent had poor attitudes.

Table 6: Number and percentage of TB patients by attitude level

Attitude level	Number (n = 86)	Percentage
Good	29	33.7
Moderate	37	43.0
Poor	20	23.3

Table 7 shows that the most correct practice of the new TB patients in Thung Song District was their increasing or decreasing the drug dosage by themselves, with an average of 2.74. During treatment, they stopped taking drugs at an average of 2.67. The least correct practice was that they did not follow up the doctor's appointment, with an average of 2.44. The most scale of good practice were level equal 59 percent and There were not good practice 32 percent. All in all, the levels of practices of the new TB patients in Thung Song District were quite good, with an average of 25.92.

Table 7: Number and percentage of new TB patients due to patients' practices and their TB medical treatments

Statement	Levels of practice			Average (n=86 cases)
	3 (Every time)	2 (Sometime)	1 (Never)	
1. You came to see the doctor because of an appointment	54 (62.8)	16 (18.6)	16 (18.6)	2.44
2. You took the drugs according to the doctor's prescription	64 (74.4)	14 (16.3)	8 (9.3)	2.65
3. You never increased or decreased the drug dosage	71 (82.6)	8 (9.3)	7 (8.1)	2.64
4. You used to forget to take drugs*	51 (59.3)	21 (24.4)	14 (16.3)	2.43
5. You had a sputum check-up according to the doctor's appointment	62 (72.1)	17 (19.8)	7 (8.1)	2.64
6. You decided to stop taking anti-TB drugs before the due time because you stopped coughing*	67 (77.9)	1 (1.2)	18 (20.9)	2.57
7. You stopped taking anti-TB drugs because you had completed the doctor's prescription	68 (79.1)	5 (5.8)	13 (15.1)	2.64
8. You left the first treatment for a new one at a new hospital	68 (79.0)	5 (5.8)	13 (15.1)	2.64
9. While taking drugs, you took good care of yourself by not living in crowded surroundings	62 (72.1)	15 (17.4)	9 (10.5)	2.62
10. You stopped smoking during medical treatment	70 (81.40)	4 (4.7)	12 (14.0)	2.67
Total	637(74)	106(12)	117(14)	
Mean = 25.92, SD = 3.54, Max = 30, Min = 17				

3 = Did it regularly 2 = Did it occasionally 1 = Never did it

*Negative attitudes

Table 8 shows that 81.4 percent of the new TB patients had good practices, while only 18.6 percent had moderate practices.

Table 8: Number and percentage of new TB patients by level of practice

Level of practice	Number (n = 86)	Percentage
Good	70	81.4
Moderate	16	18.6
Poor	0	0

*Good = (75-100 percent) , moderate = (50-75 percent) . Poor = (Less than 50 percent)

Table 9 shows that the item indicating good interrelationship was whether the patients found it convenient to come for the scheduled treatment program at the TB clinic, with an average of 2.73, followed by the healthcare staff paid good attention, with an average of 2.69. The item showing the least interaction between the healthcare staff and the patients was whether the patients had an opportunity to talk about medical treatment problems, with an average of 2.30. Overall, the level of interaction between the healthcare staff and the new TB patients in Thung Song District was good, with an average of 40.42.

Table 9: Number and percentage of new TB patients by interrelationship with healthcare staff

Clinic's service characteristics	Level healthcare staff ^a interrelationship			Mean
	3	2	1	
1. Did you find it convenient to get scheduled medical services at the TB clinic?	64 (74.4)	21 (24.4)	1 (1.2)	2.73
2. Do you think that there were enough public health staff to provide medical services?	52 (60.5)	31 (36.0)	3 (3.5)	2.57
3. It took you less than 30 minutes to see the doctor.	38 (44.2)	29(33. 7)	19 (2.21)	2.22
4. You were examined and diagnosed by a TB specialist.	57 (66.3)	23(26. 7)	6 (7.0)	2.59
5. You wanted the healthcare team to pay you a home visit to follow up the medical services.	45 (52.3)	33(38. 4)	8 (9.3)	2.43
6. The procedures for getting medical services were not complicated.	41 (47.7)	41(47. 7)	4 (4.7)	2.43
7. You were warmly welcomed when you came for service.	57 (66.3)	26 (30.2)	3 (3.5)	2.64
8. The responsible doctors were friendly.	54 (62.8)	29 (33.7)	3 (3.5)	2.58
9. The healthcare staff were friendly.	59 (68.6)	26 (30.2)	1(1.2)	2.67
10.10. The healthcare staff treated you very politely.	59 (68.6)	27 (31.4)	0	2.69
11. The healthcare staff paid you good attention.	43 (50.0)	43 (50.0)	0	2.50
12.12. The responsible doctor paid good attention to your health.	43 (50.0)	27 (31.4)	16 (19.6)	2.51
13. The healthcare staff gave you a very good explanation about your practices during the medical treatment.	52 (60.5)	34 (39.5)	0	2.60
14. You were given a good explanation about anti-TB drug allergies by your responsible doctor	50 (58.1)	33 (38.4)	3 (3.5)	2.55
15. You had an opportunity to talk about medical treatment problems with healthcare staff	31 (36.0)	50 (58.1)	5 (5.8)	2.30
16. You had an opportunity to talk about medical treatment problems with the responsible doctor.	37 (43.0)	46 (53.5)	3 (3.5)	2.40
Sum	784 (57%)	519 (38%)	75 (5%)	

Mean = 40.4, SD = 4.15, Max = 48, Min = 33

*Good = (75-100 percent) , moderate = (50-75 percent) , Poor = (Less than 50 percent)

Table 10 indicates that all of the new TB patients had good (81.4 percent.) interrelationship with healthcare staff.

Table 10: Number and percentage of new TB patients by level of interrelationship

Level interrelationship	Number (n=86)	Percentage
Good	70	81.4
Moderate	16	18.6
Poor	0	0.0

3= good (more than 75 percent) 2 = moderate(50-75 percent) 1 = poor (Less than 50 percent)

The item with which the new TB patients in Thung Song district felt the most satisfied was that the healthcare staff were friendly to them, with an average of 2.64, followed by it was convenient to come to the TB clinic, with an average of 2.62. The item with which the patients felt least satisfied was little opportunity to talk about their problems with healthcare staff, with an average of 2.21. Overall, the satisfaction level of the new TB patients in Thung Song District was quite high, with an average of 25.25. Shown that Table 11

Table 11: Number and percentage of new TB patients by patients' satisfaction and Health care staff

Clinic's service characteristics	Level of patients' satisfaction And health care staff			Mean
	3	2	1	
1. Did you find it convenient to get scheduled medical services at the TB clinic?	58 (67.4)	23 (26.7)	5 (5.8)	2.62
2. Do you think that there were enough public health staff to provide medical services?	43 (50.0)	38 (44.2)	5 (5.8)	2.44
3. It took you less than 30 minutes to see the doctor	37 (43.0)	35 (40.7)	14 (16.3)	2.27
4. You were examined and diagnosed by a TB specialist	51 (59.3)	33 (38.4)	2 (2.3)	2.57
5. You wanted the healthcare team to pay you a home visit to follow up the medical services	51 (59.3)	28 (32.6)	7 (8.1)	2.51
6. The procedures for getting medical services were not complicated	48 (55.8)	36 (41.9)	2 (2.3)	2.53
7. You were warmly welcomed when you came for service	43 (50.0)	38 (44.2)	5 (5.8)	2.44
8. The responsible doctors were friendly	43 (50.0)	38 (44.2)	5 (5.8)	2.44
9. The healthcare staff were friendly	57 (66.3)	27 (31.4)	2 (2.3)	2.64
10. The healthcare staff treated you very politely	52 (60.5)	33 (38.4)	1 (1.2)	2.59
11. The healthcare staff paid you good attention	33 (38.4)	41 (47.7)	12 (14.0)	2.24
12. The responsible doctor paid good attention to your health	48 (55.8)	38 (44.2)	0	2.56

Table 11: (Cont.) Number and percentage of new TB patients by patients' satisfaction and health care staff

Clinic's service characteristics	Level of patients' satisfaction And health care staff			Mean
	3	2	1	
13. The healthcare staff gave you a very good explanation about your practices during the medical treatment	52 (60.5)	31 (36.0)	3 (3.5)	2.57
14. You were given a good explanation about anti-TB drug allergies by your responsible doctor	43 (50.0)	38 (44.2)	5 (5.8)	2.44
15. You were given a good explanation about anti-TB drug allergies by your responsible doctor	43 (50.0)	38 (44.2)	5 (5.8)	2.44
16. You had an opportunity to talk about medical treatment problems with healthcare staff	27 (31.4)	50 (58.1)	9 (10.5)	2.21
17. You had an opportunity to talk about medical treatment problems with the responsible doctor.	33 (38.4)	41 (47.7)	12 (14.0)	2.24
Sum	719 (52%)	42 (42%)	6 (86%)	

Mean = 25.5558, SD = 4.02985, Max = 30, Min = 10

3= good (more than 75 percent) 2 = moderate(50-75 percent) 1 = poor (Less than 50 percent)

Table 12 shows that 89.5 percent of the new TB patients were very satisfied with the medical services, while only 1.2 percent felt poorly satisfied.

Table 12: Number and percentage of new TB patients by patient level of satisfaction

Level of satisfaction	Number (n = 86)	Percentage
Very satisfied	77	89.5
Moderately satisfied	8	9.3
Poorly satisfied	1	1.2

3= good (more than 75 percent) 2 = moderate(50-75 percent) 1 = poor (Less than 50 percent)

The clinical service characteristics were not different concerning service time period , service once a week, In the afternoon during working hours, doctor's medical rounds every time , and 3 number of healthcare staff working at the clinic every time and The drug formula used for treatment was CAT 1.

Table 13 shows that the different characteristics were that more patients were treated with DOTS than with non-DOTS (62.8 and 29.1percent, respectively). The initial symptoms of the patients were rather serious (70.9percent),

Table 13: Number and percentage of new TB patients, by medical services provided by TB clinics

Medical service characteristics	Number (n =86)	Percentage
Medical treatment system		
DOTS	54	62.0
Non-DOTS	32	38.0
Initial symptoms from patient record		
Severe	61	70.9
Non severe	25	29.1

Table 14 shows that, for outcomes of treatment, 41.0 percent of them were cured, 24.0 percent defaulted, and 21.0percent completed treatment. For percentage of completed medical treatment, 72.0percent of the patients were completely cured and completed the medical treatment course, while only 28.0percent defaulted.

Table 14: Number and percentage of treatment outcomes from TB clinic registers

Treatment outcomes	Number (n =100)	Percentage
Outcomes of medical treatment from patient records		
1. Cure	41	47.7
2. Completed	21	24.4
3. Failed	0	0.0
4. Defaulted	24	27.9
5. (Deceased during treatment)	(10)	---
6. (Transferred out)	(4)	---

4.2 Relationships Between Individual Factors and Treatment

Outcomes

Table 16 shows that 80.0 and 69 percent of the female and male patients, respectively, completed the medical treatment course. When tested statistically, gender was not related to coming regularly for complete or incomplete medical treatment course ($p > .05$).

Table 15: Patients who completed medical treatment or defaulted, by gender

Gender	Outcome of treatment		Total Number(%)
	Complete (Cure + Complete) Number(%)	Incomplete(Default) Number(%)	
Male	38(67.9)	18(32.1)	56(100.0)
Female	24(80.0)	6(20.0)	30(100.0)
Total	62(72.0)	24(27.9)	86(100.0)

$$\chi^2 = 1.432, p\text{-value} = 0.231, df = 1$$

Table 16 shows that 78.8 percent of the patients with more than 4 family members completed treatment, while 67.9 percent of those with less than 4 did so. When tested statistically, number of family members was not related to the patients' timely, complete or incomplete, medical treatment course ($p > .05$).

Table 16: Relationship between number of patients' family members and complete and incomplete medical treatment course

Number of patients' family members	Outcome of treatment		Total (%)
	Complete (Cure + Complete) Number(%)	Incomplete (Default) Number(%)	
	< 4	36(67.9)	
> 4	26(78.8)	7(21.2)	33(100)
Total	62(72.1)	24(27.9)	86(100)

$\chi^2 = 1.193$, p-value = 0.275, df = 1

Table 17 Shows that 88.9 percent of the new TB patients treated with DOTS completed the treatment course, while only 43.8 percent of those treated with Non-DOTS did so. When tested statistically, DOTS was related to timely, complete and incomplete medical treatment course ($p < .01$).

Table 17: Relationships between medical treatment system and complete and incomplete medical treatment course

Medical treatment system	Outcome of treatment		Total (%)
	Complete (Cure + Complete) Number(%)	Incomplete (Default) Number(%)	
	DOTS	48(88.9)	
Non-DOTS	14(43.8)	18(56.3)	32(100)
Total	62(72.1)	24(27.9)	86(100)

$\chi^2 = 20.349$, p-value = 0.000, df = 1

Table 18 shows that patients with insufficient income (40.0 percent) had timely complete medical treatment course more than those with sufficient income (74.0percent). When tested statistically, sufficiency and insufficiency of patient income were not related to timely, complete or incomplete medical treatment course ($p>.05$)

Table 18: Relationships between sufficiency of income and complete and incomplete medical treatment course

Sufficiency of income	Outcome of treatment		Total (%)
	Complete (Cure + Complete) Number(%)	Incomplete (Default) Number(%)	
	Sufficient	54(74.0)	
Insufficient	8(80.0)	5(38.5)	33(100)
Total	62(72.1)	24(27.9)	86(100)

$\chi^2=848$, p-value = 0.502, df = 1

Table 19 shows that the patients with other health insurance (83.3 percent) completed their timely medical treatment course more than those with gold cards (66.1percent). When tested statistically, patients' medical privileges were not related to timely complete or incomplete medical treatment course ($p>.05$).

Table 19: Relationships between patient access to medical services and complete and incomplete medical treatment course

Sufficiency of income	Outcome of treatment		Total (%)
	Complete (Cure + Complete) Number(%)	Incomplete (Default) Number(%)	
	30-Baht privilege card	37(66.1)	
Other health insurance	25(83.3)	5(16.7)	30(100)
Total	62(72.1)	24(27.9)	86(100)

$$\chi^2 = 2.893, p\text{-value} = 0.130, df = 1$$

Table 20 shows that the new TB patients who were living in municipal areas completed their timely medical treatment course (100 percent) more than those who were living in local administrative areas (66.7 percent). When tested statistically, patient residential area was related to complete and incomplete medical treatment course ($p < .05$).

Table 20: Relationships between residential area and complete and incomplete medical treatment course

Residential area	Outcome of treatment		Total (%)
	Complete (Cure + Complete) Number(%)	Incomplete (Default) Number(%)	
	Municipal	11 (100)	
Local administrative	51 (66.7)	24(33.3)	75(100)
Total	62 (72.1)	24(27.9)	86(100)

$$\text{Fisher's Exact Test, } p\text{-value} = 0.030, df = 1$$

Table 21 shows that the new TB patients who spent < 30 minutes traveling to hospital (81.3 percent) completed their timely medical treatment more than those who spent more than 30 minutes traveling to hospital (66.7 percent). When tested statistically, time spent traveling to hospital was not related to timely complete or incomplete medical treatment course ($p > .05$).

Table 21: Relationships between traveling time and access to complete and incomplete medical treatment course

Traveling time	Outcome of treatment		Total (%)
	Complete (Cure + Complete) Number(%)	Incomplete (Default) Number(%)	
	< 30 minutes	26(81.3)	
> 30 minutes	36(66.7)	18(33.3)	54(100.0)
Total	62(72.1)	24(27.9)	86(100.0)

$$\chi^2 = 2.124, p\text{-value} = 0.145, df = 1$$

Table 22 shows that the breadwinners of the family (76.2 percent) completed their timely medical treatment course more than members of the family (70.8 percent). When tested statistically, family status was not related to patient access to timely complete and incomplete medical treatment course ($p > .05$).

Table 22: Relationships between patient family status and patients' access to complete and incomplete medical treatment course

Patients' family status	Outcome of treatment		Total (%)
	Complete (Cure + Complete) Number(%)	Incomplete (Default) Number(%)	
	Breadwinner	16(76.2)	
Family member	46(70.8)	18(29.5)	65(100.0)
Total	62(72.1)	24(27.9)	86(100.0)

$\chi^2=.232$, p- value = 0.630, df = 1

Table 23 shows that the patients who were agriculturists (73.7 percent) completed their timely medical treatment more than those who were not agriculturists (70.8 percent). When tested statistically, occupation was not related to the patient access to the timely complete or incomplete medical treatment course ($p>.05$).

Table 23: Relationship between patient occupation and access to medical treatment

Occupation	Outcome of treatment		Total (%)
	Complete (Cure + Complete) Number(%)	Incomplete (Default) Number(%)	
	Agriculturist	34(70.8)	
Non-agriculturist	28(73.7)	10(26.3)	38(100.0)
Total	62(72.1)	24(27.9)	86(100.0)

$\chi^2=.086$, p- value = 0.770, df = 1

Table 24 shows that the patients who were Female (73.3 percent) DOTS medical treatment more than male (69.6 percent). When tested statistically, gender was not related to the treatment system ($p > .05$).

Table 24: Relationship between patient gender and treatment system

Gender	Treatment system : Number(%)		Total(%)
	DOTS	Non Dots	
Male	39(69.6)	17(30.4)	56(100.0)
Female	22(73.3)	8(26.7)	30(100.0)
Total	61(70.9)	25(29.1)	86(100.0)

$\chi^2 = .126$, p-value = 0.719, df = 1

Table 25 shows that the differences between the factors--age, income, knowledge, attitudes, practices, interaction of healthcare staff with patients and patient interaction, and access to medical treatment, were as follows:

Age: differences in age were statistically insignificantly related to patient access to complete and incomplete medical treatment, at p. value $> .05$.

Income: differences in income were statistically insignificantly related to patient access to complete and incomplete medical treatment, at p. value $> .05$.

Knowledge: differences in knowledge were found to determine complete or incomplete medical treatment with statistical insignificance, at p. value $< .05$.

Attitudes: differences in attitudes did determine complete or incomplete medical treatment, with statistical insignificance, at p. value $>.05$.

Practices: differences in practices were related to patients' complete and incomplete medical treatment, with statistical significance, at p. value $<.05$.

Interaction: differences in interaction were related to patients' complete or incomplete medical treatment, with statistical insignificance, at p. value $>.05$.

Satisfaction: differences in satisfaction were related to patients' complete and incomplete medical treatment with statistical insignificance, at p. value $>.05$.

Table 25: Differences among age, income, knowledge, attitudes, practices, healthcare staff interaction with patients, patient satisfaction and patient access to complete or incomplete medical treatment course

Related factors	Complete treatment (n=62)	Mean rank	Incomplete treatment (n= 24)	Mean rank	P. value
Age		42.66		45.67	.616
Income		42.66		45.67	.930
Knowledge		47.65		32.77	.011*
Attitudes		45.37		28.67	.263
Practices		49.94		26.88	.000*
Interaction		41.96		47.48	.356
Satisfaction		41.38		48.98	.204

*Differences tested by Mann Whitney U-test

4.3 Problems and Suggestions

Table 27 shows that 33.3 percent of the patients wanted the healthcare staff to provide them with knowledge about TB and the practices of the patients and their relatives. 27.8 percent of them wanted the healthcare staff to ask them about their problems before treatment, while 2.8 percent did not want the staff to pay them a home visit.

Table 26: Number and percentage of patients' service suggestions

Suggestions	Number (n =36)	Percentage
1. The time waiting for the examination and the drugs was too long.	6	16.7
2. Healthcare staff asked the patients about their problems so the patients were confident to talk with them	10	27.8
3. Healthcare staff should give the patients and their relatives knowledge of TB and how to cure it	12	33.3
4. Patients could get some medicines from nearby public health centers	7	19.4
5. Patients did not want the medical staff to follow up at home	1	2.8
Total	36	100

Table 28 shows that the suggestions for the medical treatment system concerning the number of pills and the period of treatment time were both 36.8 percent, while 26.4 percent of them wanted to be directly observed by a caregiver while taking drugs.

Table 27: Number and percentage of service suggestions

Suggestions	Number (n =86)	Percentage
1. They should be directly observed by a caregiver while taking drugs	5	26.4
2. They thought they had to take too many pills	7	36.8
3. It took too long to cure TB	7	36.8
Total	19	100