

## CHAPTER IV



### RESEARCH RESULTS

This research is the evaluation of the needs and satisfaction of the consumers of the diagnostic radiology department of the community hospitals in Krabi. The research is obtained through interviews of external customers and the use of a questionnaire for internal customers during October 1 – 31, 2003, totaling of 320 people. The results are listed below:

#### **Research Results Topics**

1. General Information of the external consumer in the Krabi community hospitals
2. Needs and satisfaction of the external consumer in the Krabi community hospitals
3. General Information of the internal consumer in the Krabi community hospitals
4. Need and satisfaction of the internal consumer in the Krabi community hospitals
5. Comparison of the average needs and average satisfaction of the consumer by categories of x-ray service system, working method, environment, safety and the consumer rights of the patient.

6. Details of each category of 1.5
7. Comments and suggestions from the external consumer and internal consumer

## **Research Results**

### **1. General Information of the external consumer in the Krabi community hospitals**

Most of the external consumers were patients, totaling 227 or 70.9%. 165 were female (51.6%). 214 people were married (66.9%). There were 142 in the age range 15-31 years (44.4%), with the average age of 35 years. The standard deviation = 13.131. 246 were Buddhist (76.9%) In terms of education level, 88 people graduated from primary school (27.5%). Agriculture was the main occupation, employing 124 people or 38.8%. The average salary was 7,800 baht per month for 151 people (47.2%). The mode for the group was 6,500 baht per month. Most of the patients use the 30 baht hospital card, a total of 177 or 55.3%. 88.3% or 283 of the people were outpatients. The results are listed in the Table 2.

**Table 2: Number and percents of the personal information separated by status, sex, marriage status, age, religion, education, occupation, income, and consumer right.**

Personal information	Amount ( N = 320 )	Percent
1. Status		
• Patient	227	70.9
• Father/Mother	36	11.3
• Spouse	13	4.1
• Children	19	5.9
• Sisters/Brothers	15	4.7
• Niece/Nephew	7	2.2
• Others (Specify)	3	0.9
2. Sex		
• Male	155	48.4
• Female	165	51.6
3. Marriage status		
• Single	85	26.6
• Spouse	214	66.9
• Divorce / Separate	21	6.6
4. Age		
• Between 15-31 Years old	142	44.4
• Between 32-48 Years old	132	41.3
• Between 49-65 Years old	35	10.9
• Between 66 Years old	11	3.4
$\bar{X} = 35.24$ , $SD = 13.131$		
Max = 80 ,Min = 15		
5. Religion		
• Buddhist	246	76.9
• Catholics	2	0.6
• Muslim	72	22.5

**Table 2: (Cont.) Number and percents of the personal information separated by status, sex, marriage status, age, religion, education, occupation, income, and consumer right.**

Personal information	Amount ( N = 320 )	Percent
6. Education		
• No Education	16	5.0
• Primary school	88	27.5
• Secondary school	56	17.5
• High school	44	13.8
• Por Wor Cho.	30	9.4
• Por Wor Sor.	19	5.9
• Bachelor	47	14.7
• Other (Specify)	20	6.3
7. Occupation		
• agriculture	124	38.8
• government official	31	9.7
• Labor	72	22.5
• Student	25	7.8
• Trader	40	12.5
• State enterprise	12	3.8
• Others (Specify)	16	5.0
8. Monthly income		
• Lower than 1,000 Baht	30	9.4
• between 1,001-5,000 Baht	87	27.2
• between 5,001-10,000 Baht	151	47.2
• more than 10,000 Baht	52	16.3
$\bar{X} = 7,800.91$ , SD. = 7,142.331		
Max=80,000,Min=0,Median = 6,500		

**Table 2: (Cont.) Number and percents of the personal information separated by status, sex, marriage status, age, religion, education, occupation, income, and consumer right.**

Personal information	Amount ( N = 320 )	Percent
9. Patient right		
• elderly	17	5.3
• insurance	37	11.6
• Gold card (free fees)	56	17.5
• Social security card	15	4.7
• 30 Baht gold card	177	55.3
• Pay by own self	18	5.6
10. Type of patient service		
• Out patient	283	88.4
• In patient	37	11.6

## 2. Needs and satisfaction of the external consumer of diagnostic radiology in Krabi community hospitals

From the analysis of the needs and satisfaction of the external consumer totaling 320 people, it was found the average needs score was the highest in the consumer rights of the patient category which showed  $\bar{X} = 3.59$  and  $SD = 0.48$ . The next highest score was the category of x-ray service system with a score of  $\bar{X} = 3.56$  and  $SD$  of 0.38. Below this level was the working methods, safety and environment which scored  $\bar{X} = 3.44$  and  $SD$  of 0.44. The highest level of satisfaction was the x-ray service system category with  $\bar{X} = 3.57$  and  $SD = 0.36$ . The next level of satisfaction was the consumer rights of the patient category with  $\bar{X} = 3.51$  and  $SD$  of 0.45. The last group was the working method, safety and environment which scored  $\bar{X} = 3.29$  and  $SD = 0.51$ . The results are listed in Table 3.

**Table 3: Average, Standard deviation of consumer needs and satisfaction levels**

Service Activities	Need ( N=320 )			Satisfaction (N=320)		
	$\bar{X}$	SD	Levels	$\bar{X}$	SD	Levels
1. X-ray service system	3.56	0.38	highest	3.57	0.36	highest
2. Working method, Environment and Safety	3.44	0.44	high	3.29	0.51	high
3. Consumer right of the patient	3.59	0.48	highest	3.51	0.45	highest

### 3. Analysis of internal consumer information using frequency and percentage

Most of the internal consumers are doctors whose frequency of use was 270 times or 84.4% of the total usage. The waiting period for the development of film was fast, with 95.3% or 305 cases being on time. All 320 of the films developed were free of errors in procedure and working method, (100%). The results are shown in Table 4.

**Table 4: General information of internal consumer**

Personal information	Amount (N=320 times* )	Percent
1. Status		
• Doctor	270	84.4
• Nurse	49	15.3
• Others (Specify)	1	0.3
2. Period of waiting		
• Fast	305	95.3
• Slow	11	3.4
• Need improve	4	1.3
3. Procedural and working method errors		
• No error	320	100

\* The amount of internal consumer's service were doctors = 13, nurses = 7, and dentist = 1

#### 4. Consumer needs and satisfaction of the x-ray service in the Krabi community hospitals.

For the internal consumer, the average needs score for the total service system found the highest level, with  $\bar{X} = 3.52$  and SD. = 0.52. The next high level of needs was the category of quality of film with  $\bar{X} = 3.49$  and SD. of 0.58. The satisfaction levels found the highest score in the total service system with  $\bar{X} = 3.51$  and SD. = 0.53. The next level of satisfaction was film quality with  $\bar{X} = 3.48$  and SD. of 0.57. These results are shown in Table 5.

**Table 5: Average, standard deviation and Level of need and satisfaction of the internal consumer.**

	Needs (N=320 times)			Satisfaction (N=320 times)			p
	$\bar{X}$	SD	Levels	$\bar{X}$	SD	Levels	
• Quality of film	3.49	0.58	high	3.48	0.57	high	0.85
• Total service system	3.52	0.52	highest	3.51	0.53	highest	0.62

#### 5. Comparison of the average needs and average satisfaction of the consumer by categories of x-ray service system, working method, environment, safety and the consumer rights of the patient.

Comparison of the average needs and average satisfaction of the consumer by categories of x-ray service system, working method, environment, safety and the consumer rights of the patient. It was found the average score of the needs and

satisfactions were different for each topic, showing a difference of  $p < 0.05$ . For the x-ray service it was found the needs and satisfaction were the same. ( $p > 0.05$ ). The details are shown in Table 6.

**Table 6: Comparison of the average needs and average satisfaction of the consumer by categories of x-ray service system, working method, environment, safety and the consumer rights of the patient.**

Service Activities	Needs		Satisfaction		N=320	
	$\bar{X}$	SD	$\bar{X}$	SD	t	p
1.X-ray service system	3.56	0.38	3.57	0.36	-1.615	0.107
2.Working method, environment and safety	3.44	0.44	3.29	0.51	5.067	0.000*
3.Consumer right of the patient	3.59	0.48	3.51	0.45	3.275	0.001*

\* significant  $p < 0.05$

#### **6. Details of the categories of the working methods, environment, safety and consumer rights of the patient.**

The research is divided into 12 subject areas. With regards to the x-ray service system, the area to be examined is the staff explanation of the x-ray process to the consumer, while working methods, environment, safety are the posting of safety rules and warning signs, customer comfort, physical and psychological comfort of the environment, use of safety garments to protect the customer from hazards consumer rights of the patient. The customer should receive enough information to make a decision about the doctor and the service needed, including names of the provider. Patient rights to secrecy must be observed. The result of the difference with average



satisfaction and average needs founds that the score of a difference should be improve are x-ray safety warning sign and imformation board.The details are shown in Table 7.

**Table 7: Average, standard deviation, Levels of need and satisfaction separate by category of x-ray service system, working method, environment and safety and consumer right of the patient**

Service Activities	Needs			Satisfaction			P	Different of mean	Priority
	$\bar{X}$	SD	levels	$\bar{X}$	SD	levels			
<b>1.X-ray service system</b>									
1.1 Patient comfort in the x-ray room	3.56	0.56	highest	3.60	0.59	highest	0.282	0.04	-
1.2 Courteousness of staff	3.67	0.52	highest	3.72	0.52	highest	0.103	0.05	-
1.3 Waiting time from registration to receiving film	3.57	0.58	highest	3.51	0.62	highest	0.105	-0.06	10
1.4 Staff politeness in addressing customer.	3.32	0.78	high	3.26	0.71	high	0.154	-0.06	10
1.5 Staff explanation of the x-ray process	3.52	0.59	highest	3.34	0.80	high	0.001*	-0.17	5
1.6 Staff listening abilities	3.51	0.57	highest	3.47	0.58	high	0.201	-0.04	11
1.7 Fairness in service of the consumer	3.74	0.50	highest	3.78	0.54	highest	0.198	0.04	-

**Table 7: (Cont.) Average, standard deviation, Levels of need and satisfaction separate by category of x-ray service system, working method, environment and safety and consumer right of the patient**

Service Activities	Needs			Satisfaction			P	Different of mean	Priority
	$\bar{X}$	SD	levels	$\bar{X}$	SD	levels			
<b>2.Working method, Environment and Safety</b>									
2.1 Comfort in the x-ray room	3.36	0.78	high	3.13	0.78	high	0.000*	-0.23	3
2.2 Comfort of changing room	3.49	0.70	high	3.37	0.74	high	0.003*	-0.12	7
2.3 Room cleanliness	3.37	0.68	high	3.40	0.60	high	0.378	0.03	-
2.4 Information board	3.13	0.84	high	2.86	0.94	high	0.000 *	-0.27	2
2.5 Safety garments	3.13	0.88	high	3.01	0.76	high	0.033*	-0.12	7
2.6 Pregnancy, warning sign	3.68	0.62	highest	3.53	0.90	highest	0.004*	-0.15	6
2.7 Fire warning sign	3.54	0.66	highest	3.31	0.95	high	0.000*	-0.23	3
2.8 Successful completion of x- ray	3.61	0.68	highest	3.67	0.58	highest	0.048*	0.06	-
2.9 X-ray safety ,warning sign	3.69	0.59	highest	3.37	0.91	high	0.000*	-0.32	1

**Table 7: (Cont.) Average, standard deviation, Levels of need and satisfaction separate by category of x-ray service system, working method, environment and safety and consumer right of the patient**

Service Activities	Needs			Satisfaction			p	Different of mean	Priority
	$\bar{X}$	SD	levels	$\bar{X}$	SD	levels			
<b>3.The consumer right of the patient</b>									
3.1 Fairness and equality of service	3.73	0.55	highest	3.73	0.51	highest	0.835	0.00	-
3.2 Providing sufficient information for the consumer to make decision about service or treatment.	3.67	0.60	highest	3.56	0.64	highest	0.001*	-0.11	8
3.3 Right to know name of the staff and type of service	3.63	0.61	highest	3.45	0.75	high	0.000*	-0.18	4
3.4 Patient / Doctor secrecy	3.47	0.80	high	3.39	0.63	high	0.035*	-0.08	9
3.5 Right to be includes in this research	3.47	0.77	high	3.44	0.69	high	0.506	-0.03	12

\* significant  $p < 0.05$

## 7. Comments and Recommendations of the Consumer

31 people (9.69%) responded to the open question in the interview on x-ray service. The researcher grouped the comments into two different types.

1. The first type of comments concerned service behavior.

\* The consumer would like all the staff to speak and act politely

- \* The doctors and nurses need to spend time listening to the consumer
- \* The doctors and nurses should not speak strongly or impolitely.

## 2. Service Activity comments

### 2.1 X-ray service system

- \* There should be improvement in the waiting time
- \* The staff should not be distracted by their personal affairs while the consumer is waiting. The speech of the staff is polite
- \* The speed of service is acceptable given that there was only one staff
- \* The staff provides good service
- \* The service is fast
- \* Sometimes the staff has not completed the prior case when the next customer is brought into the room.
- \* Faster service is necessary as in the future there will be more patients

### 2.2 Working methods, environment and safety

- \* There should be air-conditioning in the x-ray room
- \* The changing room should be clean and air conditioned
- \* The x-ray room is too small
- \* The x-ray room is hot, needs air conditioning
- \* The customer should have an information board about internal and other diseases.

- \* There should a warning sign in Thai that the x-ray is in operation.
- \* The service is good but the room is too small

### 2.3 Consumer rights of the patient

- \* All the patients should be treated equally