CHAPTER IV

RESULTS

The present research aimed at investigating the performance of caretakers in preventing Dengue Hemorrhagic Fever (DF) while providing care for the patients at home in Trang Province. Data were collected by means of questionnaires distributed to 384 caretakers. All questionnaires (100%) were returned and analyzed by using the SPSS for Windows Program. In this chapter, the study findings derived from the data analysis are presented in the following order:

       Part 1   Personal data and factors related to the prevention of DF

       Part 2   Factors related to the caretakers

             2.1 Knowledge about DF

             2.2 Perception of susceptibility and severity of DF

       Part 3   Factors related to performance in the prevention of DF

       Part 4   Evaluation of results from the performance in the prevention of DF (from the observations and interviews)

       Part 5   Relationship between personal data and factors related to the prevention of DF of the caretakers

Each part could be described in detail as follows:

Part 1: Personal data and factors related to the prevention of DF

1.1 Personal data of the caretakers

The majority of DF caretakers were female (71.35%), and only a little more than one-fourth were male (28.65%).

In addition, 86.98% of the caretakers were Buddhist, while 13.02% were Islam.

As for age, about one-third of the caretakers (32.02%) and another one-third (32.03%) were between 30 and 39 years old and between 40 and 49 years old, 15.63% ranged in age from 20 to 29 years old, and only 2.86% were older than 60 years old.

In terms of occupation, close to two-thirds, or 64.32%, of the caretakers were gardeners and farmers, 13.02% were employees, and 1.56% were government officials or public enterprise employees.

Regarding education, approximately two-thirds of the caretakers (68.75%) completed primary education, 22.66% graduated with a high school diploma or vocational certificate, and 2.98% held a bachelor's degree.

With regard to monthly income, more than half, or 63.80%, of the caretakers earned between 5,000 and 10,000 Baht per month, 16.93% earned between 10,001 and 15,000 Baht per month, and only 2.86% earned more than 15,000 Baht per month.

In addition, in terms of marital status, the majority of the caretakers were married (79.17%), 16.67% were single, and only 0.78% was divorced/separated.

The number of caretakers providing care for DF patients ranged from one to two persons (89.32%), three to four persons (8.59%), and five to six persons (2.08%).

Concerning the relationship between the patients and the caretakers, the study findings indicated that the largest group of caretakers were the children of the patients (39.84%), father or mother (30.21%), and brother, sister, aunt, uncle, grandfather, or grandmother (8.07%).

In the previous five years, there had been no DF patients (93.75%), while there were 24 patients (6.25%) in the year the study was conducted.

As regards experience with DF care, most DF caretakers had never provided care for the patients before (90.10%), whereas only 9.90% of the caretakers had experience taking care of DF patients in the past.

Lastly, most caretakers, or 79.43%, knew that the patients suffered from DF, while 20.57% did not, as depicted in Table 4.1.

Table 4.1:   Personal data of the caretakers

Personal data of the caretakers	Number (n = 384)	Percentage
Gender		
- Male	110	28.65
- Female	274	71.35
Religion		
- Buddhism	334	86.98
- Islam	50	13.02
Age		
- Younger than 20 years old	45	11.72
- 20 – 29 years old	60	15.63
- 30 – 39 years old	123	32.03
- 40 – 49 years old	123	32.03
- 50 – 59 years old	22	5.73
- Older than 60 years old	11	2.86
Occupation		
- Farmer, gardener, Field Farmer	247	64.32
- Merchant	25	6.51
- Government official or public enterprise employee	6	1.56
- Employee	50	13.02
- Others	56	14.58
Education		
- No formal education	9	2.34
- Primary education	264	68.75
- Secondary education/Vocational certificate	87	22.66
- Diploma	16	4.17
- Bachelor's degree	8	2.08

Table 4.1:   (Cont.) Personal data of the caretakers

Personal data of the caretakers	Number (n = 384)	Percentage
Monthly income		
- Less than 5,000 Baht/month	63	16.41
- 5,000 – 10,000 Baht/month	245	63.80
- 10,001 – 15,000 Baht/month	65	16.93
- More than 15,000 Baht/month	11	2.86
Marital Status		
- Single	64	16.67
- Married	304	79.17
- Widowed	13	3.39
- Divorced/Separated	3	0.78
Number of Caretakers Providing Care for DF Patients		
- 1 – 2 persons	343	89.32
- 3 – 4 persons	33	8.59
- 5 – 6 persons	8	2.08
Relationship between the patients and the caretakers		
- Child of caretaker	153	39.84
- Father or mother	116	30.21
- Brother, sister, aunt, uncle, grandfather, or grandmother	31	8.07
- Others	84	21.88
Family members' experience with DF in the previous five years		
- No	360	93.75
- Yes	24	6.25
Total	384	100.00

Table 4.1:   (Cont.) Personal data of the caretakers

Personal data of the caretakers	Number (n = 384)	Percentage
Family members' experience with DF in the previous five years (with the years specified)		
- In 2000	2	8.33
- In 2001	3	12.50
- In 2002	2	8.33
- In 2003	4	16.67
- In 2004	13	54.17
Total	24	100.00
Experience taking care of other DF patients		
- No	346	90.10
- Yes	38	9.90
Knowledge about DF status of the patients to whom care was provided		
- No	79	20.57
- Yes	305	79.43

1.2   Factors related to the prevention of DF

Concerning the factors related to the prevention of DF, most caretakers, or 84.90%, obtained necessary advice from the public health volunteers (PHVs) (84.90%). Second came from the public health officers working near their house at 83.33%, while 0.78% did not receive any advice from anyone.

In terms of the sources of knowledge related to DF, 87.76% of the caretakers learned about DF from television, 82.03% from medical team (doctors, nurses, or public health officers), while 5.21% obtained knowledge about DF from the neighbors.

Finally, people participating most in the prevention of DF were the PHVs (79.17%), family members (73.44%), and neighbors (44.01%), as detailed in

Table 4.2: Factors related to the prevention of DF

Factors related to the prevention of DF	Number (n =384)	Percentage
The reception of advice related to DF (More choices were available)		
- From public health volunteers (PHVs)	326	84.90
- From the public health officers working near residence (not the medical team)	320	83.33
- From the doctors, nurses, or medical team members	247	64.32
- From neighbors	152	39.58
- From the relatives receiving the advice from doctors	82	21.35
- Others (Specify)	29	7.55
- Not receiving any advice from anyone	3	0.78
Sources of knowledge about DF		
- Television	337	87.76
- Doctors, nurses, public health officers	315	82.03
- PHVs	309	80.47
- Radio	177	46.09
- Community leaders	119	30.99
- Newspaper	103	26.82
- Village News Center	78	20.31
- Others such as neighbors	20	5.21
People participating in the prevention of DF		
- PHVs	304	79.17
- Family members	282	73.44
- Doctors, nurses, public health officers	228	59.38
- Neighbors	169	44.01
- Community leaders	114	29.69
- Others	4	1.04

Part 2: Factors related to the caretakers providing care for DF patients

2.1 Knowledge about DF

Concerning the factors related to the caretakers providing care for DF patients, the levels of knowledge about DF could be ranged as follows: most caretakers had the knowledge about DF at a high level (8 – 10 points, 84.90%) and at a medium level (6 – 7 points, 15.10%). The average score was 8.91, while the maximum score was 10 and the minimum score was 6, as illustrated in Table 4.3.

Table 4.3: Number and percentage of levels of knowledge about DF

Knowledge Levels	Number	Percentage
Knowledge at a high level, 80-100% of score (8 – 10 points)	326	84.90
Knowledge at a medium level, 60-79 % of score (6 – 7 points)	58	15.10
Total	*384*	*100.00*

Min = 6; Max = 10; Mean = 8.91; S.D. = 1.24

When analyzing the knowledge of the caretakers, 100% of the caretakers had the knowledge that the *Aedes aegypti* mosquito was the vector of DF, 97.40% had the knowledge about the infection of DF, whereas 74.22% knew that the mosquitoes usually bit people in the daytime, as shown in Table 4.4.

Table 4.4:   Number and percentage of caretakers correctly answering the questions on DF

Questions	Number	Percentage	Mean	S.D.
1. The *Aedes aegypti* mosquito is the vector of DF.	384	100.00	1.00	0.00
2. The *Aedes aegypti* mosquito usually bites the patients in the daytime.	285	74.22	0.74	0.44
3. DF can spread when the peoples are bitten by the *Aedes aegypti* mosquito having DF agent.	374	97.40	0.97	0.16
4. Children have the most opportunity to be infected by DF.	350	91.15	0.91	0.28
5. DF patients will have a high fever, which cannot be easily reduced by taking medicines or applying tepid sponge.	316	82.29	0.82	0.38
6. Antipyretic drug which should not be given to DF patients is Aspirin.	336	87.50	0.88	0.33
7. To prevent the growth of *Aedes aegypti* mosquito, the mosquito breeding sources should be got rid of every seven days.	346	90.10	0.90	0.30
8. DF patients should be prevented from being bitten by the *Aedes aegypti* mosquito because the mosquito is the vector of DF.	340	88.54	0.89	0.32
9. DF patients should sleep under the bed net to protect them from the mosquito, and the mosquito sources in the house and surrounding areas should be eliminated.	338	88.02	0.88	0.33
10. To prevent DF, mosquito sources in the house and surrounding areas should be regularly surveyed and people should sleep under a bed net.	354	92.19	0.92	0.27

2.2 Perception of susceptibility and severity of DF

As regards the factors related to the caretakers providing care for DF patients, the perception of susceptibility and severity of DF could be ranged as follows: most caretakers had the perception of susceptibility and severity of DF at a medium level (51-67 points, 73.44%) and at a high level (68 – 85 points, 26.56%). The average score was 63.96, while the maximum score was 80 and the minimum score was 51 as illustrated in Table 4.5.

Table 4.5:   Number and percentage of perception of susceptibility and severity of DF

Perception of susceptibility and severity of DF	Number	Percentage
Perception at a high level, 80-100% of score (68 – 85 points)	102	26.56
Perception at a medium level, 60-79% of score (51 – 67 points)	282	73.44
Total	*384*	*100.00*

Min = 51; Max = 80; Mean = 63.96; S.D. = 5.92

When analyzing the statements related to the perception of susceptibility and severity of DF to determine the opinion levels, it was found that close to half, or 46.35%, of the caretakers strongly agreed that public health officers should spray ULV in the house and surrounding areas to prevent DF, 39.84% strongly agreed that the local public health officers should be informed if there was a DF patient, and 2.08% strongly agreed that caretakers were indifferent and negligent when finding the mosquito larvae.

As regards the statements related to the perception of susceptibility and severity of DF categorized by the disagreeing opinions, almost one-fourth, or 24.48%, of the caretakers strongly disagreed that the prevention and control of larvae should

be performed only in the house of the patients, another one-fourth, or 23.44%, strongly disagreed that the elimination of mosquitoes could provide prevention of DF, and only 0.26% strongly disagreed that public health officers should spray ULV in the house and surrounding areas as a prevention of DF as detailed in Table 4.6.

Table 4.6: Number and percentage of caretakers correctly answering the questions related to the perception of susceptibility and severity of DF

Statements	Opinion Levels					Mean	S.D.
	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree		
1. When compared with financial, drugs-related, or educational problems, the problem of DF is most important.	94 (24.48)	213 (55.47)	41 (10.68)	33 (8.59)	3 (0.78)	3.94	0.87
2. When a member of a family or community suffers from DF, all members in the family or community can be infected with DF as well.	107 (27.86)	244 (63.54)	18 (4.69)	11 (2.86)	4 (1.04)	4.14	0.72
3. If there is a DF patient, the local public health officer should be immediately informed.	153 (39.84)	192 (50.00)	33 (8.59)	4 (1.04)	2 (0.52)	4.28	0.71
4. The role to eliminate the mosquito larvae should be assigned to the PHVs.	49 (12.76)	105 (27.34)	46 (11.98)	148 (38.54)	36 (9.38)	3.04	1.24
5. Getting rid of the mosquito sources is very difficult.	25 (6.51)	80 (20.83)	45 (11.72)	185 (48.18)	49 (12.76)	3.40	1.14

Table 4.6: (Cont.) Number and percentage of caretakers correctly answering the questions related to the perception of susceptibility and severity of DF

Statements	Opinion Levels					Mean	S.D.
	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree		
6. DF presents serious symptoms.	94 (24.48)	223 (58.07)	32 (8.33)	21 (5.47)	14 (3.65)	3.94	0.93
7. You are unconcerned when finding the mosquito larvae in the house.	8 (2.08)	42 (10.94)	70 (18.23)	186 (48.44)	78 (20.31)	3.74	0.97
8. DF is an important infectious disease.	87 (22.66	260 (67.71	18 (4.69	14 (3.65	5 (1.30)	4.07	0.73
9. Getting rid of the *Aedes aegypti* mosquito cannot prevent DF.	17 (4.43)	46 (11.98)	53 (13.80)	178 (46.35)	90 (23.44)	3.72	1.08
10. The best way to prevent DF is to protect DF patients from being bitten by mosquitoes.	105 (27.34)	223 (58.07)	25 (6.51)	23 (5.99)	8 (2.08)	4.03	0.88
11. You feel very ashamed when the villagers regard your home as DF source.	34 (8.85)	95 (24.74)	105 (27.34)	96 (25.00)	54 (14.06)	2.89	1.19
12. You are willing to allow the public health officer to spray ULV in your house and surrounding areas as a prevention of DF.	178 (46.35)	194 (50.52)	7 (1.82)	4 (1.04)	1 (0.26)	4.42	0.61
13. The public health officers should spray ULV to kill mosquitoes rather than advising you to get rid of the larvae in your house.	51 (13.28)	120 (31.25)	59 (15.36)	130 (33.85)	24 (6.25)	2.89	1.19

Table 4.6: (Cont.) Number and percentage of caretakers correctly answering the questions related to the perception of susceptibility and severity of DF

Statements	Opinion Levels					Mean	S.D.
	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree		
14. Having DF patient in your house, you will be very worried and afraid that other family members will be infected.	90 (23.44)	211 (54.95)	41 (10.68)	33 (8.59)	9 (2.34)	3.89	0.94
15. The *Aedes aegypti* mosquito biting DF patients cannot spread DF disease to other people.	19 (4.95)	49 (12.76)	52 (13.54)	183 (47.66)	81 (21.09)	3.67	1.09
16. People may die from DF disease.	137 (35.68)	208 (54.17)	21 (5.47)	14 (3.65)	4 (1.04)	4.20	0.78
17. The prevention and control of the *Aedes aegypti* mosquito should be performed only in the houses having DF patients.	19 (4.95)	51 (13.28)	47 (12.24)	173 (45.05)	94 (24.48)	3.71	1.12

Part 3: Factors related to the performance in the prevention of DF

With regard to the factors related to the performance in the prevention of DF, most caretakers had the performance to prevent DF at a high level (29-36 points, 51.30%), a medium level (22-28 points, 34.50%), and a low level (11.20%). The average score was 28.10, while the maximum score was 36 and the minimum score was 0, as shown in Table 4.7.

Table 4.7:   Number and percentage of performance levels in the prevention of DF

Performance Levels	Number (persons)	Percentage
Practices at a high level, 80-100% of score (29 – 36 points)	197	51.30
Practices at a medium level, 60-79 % of score (22 – 28 points)	144	37.50
Practices at a low level, 0-59% of score (0-21 points)	43	11.20
Total	*384*	*100.00*

Min = 0; Max = 36; Mean = 28.10; S.D. = 5.64

When analyzing the statements regarding the performance to prevent DF, 79.92% of the caretakers usually protected the patients from being bitten by the mosquitoes, 69.79% got rid of the mosquito sources more frequently, and 27.86% surveyed the mosquito larvae every seven days.

Concerning the statements related to the prevention of DF, 24.22% of the caretakers did not close all jar covers in the house, 10.42% did not survey mosquito larvae every seven days, and 0.78% did not get rid of the mosquito sources when having DF patient at home, as depicted in Table 4.8.

Also, when asked if there were mosquito larvae in their house and surrounding areas, 52.86% of the caretakers answered "NO," while 47.17% responded "YES."

Table 4.8: Number and percentage of performance to prevent DF

Statements	Performance				Mean	S.D.
	Always	Sometimes	Rarely	Never		
1. When having a DF patient in your house, you try to find the mosquito sources in your house.	187 (48.70)	173 (45.05)	19 (4.95)	5 (1.30)	2.41	0.65
2. When finding the mosquito larvae, you get rid of them immediately.	252 (65.63)	111 (28.91)	15 (3.91)	6 (1.56)	2.59	0.64
3. To protect the patient, you make him/her sleep under the bed net.	224 (58.33)	114 (29.69)	16 (4.17)	30 (7.81)	2.39	0.89
4. You clean your house carefully and thoroughly to get rid of the mosquito sources.	201 (52.34)	167 (43.49)	13 (3.39)	3 (0.78)	2.47	0.60
5. Your family members and you get rid of the mosquito sources in the house and surrounding areas together.	162 (42.19)	183 (47.66)	35 (9.11)	4 (1.04)	2.31	0.68
6. When having a DF patient in your house, you get rid of the mosquito sources more frequently.	268 (69.79)	106 (27.60)	7 (1.82)	3 (0.78)	2.66	0.55
7. When having a DF patient in your house, you particularly try to protect the patients from being bitten by the mosquitoes.	280 (72.92)	96 (25.00)	4 (1.04)	4 (1.04)	2.70	0.54

Table 4.8:   (Cont.) Number and percentage of performance to prevent DF

Statements	Performance				Mean	S.D.
	Always	Sometimes	Rarely	Never		
8. To avoid the mosquitoes, you use the mosquito repellent or spray.	173 (45.05)	152 (39.58)	44 (11.46)	15 (3.91)	2.26	0.81
9. In the normal period, you try to find the mosquito larvae every seven days.	107 (27.86)	187 (48.70)	50 (13.02)	40 (10.42)	1.94	0.91
10. You close all jar covers in the house.	150 (39.06)	111 (28.91)	30 (7.81)	93 (24.22)	1.83	1.19
11. You turn all coconut shells, used tires, and other mosquito sources in the surrounding of the house upside down.	140 (36.46)	187 (48.70)	41 (10.68)	16 (4.17)	2.17	0.78
12. Even after the patient has recovered, you still get rid of the mosquito larvae in the house.	174 (45.31)	183 (47.66)	21 (5.47)	6 (1.56)	2.37	0.66

Part 4: The evaluation of results regarding the performance to prevent DF

In this study, data regarding the performance to prevent DF were also gathered by means of observations conducted by the research assistants. Based on the observations, 40.89% of the caretakers used abate sand, 38.02% turned the coconut shells upside down, and 34.64% close all jar covers in the house to get rid of the mosquito sources.

However, 21.09% of the caretakers did not close the jar covers, 13.28% did not use abate sand, and 7.55% did not turn the coconut shells upside down to deal with mosquito sources, as detailed in Table 4.9.

When surveying mosquito larvae in the houses of DF patients via observation, it was discovered that 62.24% of the patients' houses had mosquito larvae, while 37.76% did not.

Besides, the interviews conducted to further gather data on the prevention of DF indicated that 63.54% (244 persons) of the patients were bitten by the mosquitoes during their recovery period, while 36.46% (140 persons) did not. In addition, 80.47% of the patients (309 persons) avoided being bitten by the mosquitoes, whereas 19.53% (75 persons) did not.

The interview data also showed that the patients and their family used various methods to avoid being bitten by the mosquitoes. For example, 69.01% of them (265 persons) slept under a bed net, 32.55% (125 persons) used the traditional mosquito repellent, 23.18% (89 persons) sprayed the mosquito repellent, and 3.91% (15 persons) prevented mosquito bites by using an ointment. Moreover, some used smoke to chase the mosquitoes in the house away.

The findings also revealed that 42.79% (165 persons) of the caretakers who protected the patients from being bitten by the mosquitoes were housewives while 42.97% (64 persons) were the children or other relatives living with the patients such as father, uncle, aunt, etc.

According to the study findings, the family of the patients used several methods to get rid of the mosquito larvae in the house and surrounding areas. That is, 67.19% (258 persons) turned the coconut shells upside down, 45.84% (176 persons)

used the abate sand, 36.46% (140 persons) turned unused containers upside down, 25.52% (98 persons) put salt in ant trace water containers, 17.71% (68 persons) cleaned their houses thoroughly, 14.06% (54 persons) changed water in the ant trace containers regularly, 10.94% (42 persons) changed water in vases and flower pots, 9.11% (35 persons) kept the Siamese fighting fish, and 4.95% (19 persons) filled up a hole on the ground with soil or sand.

When it came to the relationship between the caretakers who participated in this study and DF patients, the findings showed that the family members of DF patients were the mother (55.47%, 213 persons), father (46.35%, 178 persons), or child (24.48%, 94 persons) of the patients. On the other hand, the caretakers who were not family members included public health officers (36.98%, 142 persons). neighbors (35.42%, 136 persons), PHVs (35.16%, 135 persons), members of Tambon administration organization (TAO) (24.22%, 93 persons), and community leaders (14.06%, 54 persons).

Regarding the activities performed to prevent DF in the family, 29.16% (112 persons) surveyed the mosquito larvae every seven days, 24.29% (93 persons) surveyed the mosquito larvae both in the house and surrounding areas, 21.88% (84 persons) put salt in the water kept in a container, 16.67% (64 persons) got rid of the mosquito larvae, and 15.36% (59 persons) burned the garbage.

In terms of the activities performed to prevent DF in the community, 51.56% (198 persons) surveyed the mosquito larvae together with public health officers, 34.38% (132 persons) sprayed ULV, 29.43% (113 persons) campaigned on the elimination of mosquito larvae in the village, 22.39% (86 persons) surveyed the mosquito larvae with the TAO, 21.35% (82 persons) obtained the knowledge about

DF from PHVs, 16.67% (64 persons) got rid of the wasted containers and mosquito larvae concurrently, and 14.97% (59 persons) obtained the knowledge about DF from public health officers.

Table 4.9: Performance to prevent DF as obtained by means of observation

Observation Points	Performance				Mean	S.D.
	Every time	Some times	Rarely	Never		
1. The patients sleep under the bed net or use any method to protect themselves from being bitten by mosquitoes.	136 (35.42)	168 (43.75)	32 (8.33)	48 (12.50)	2.02	0.97
2. Abate sand is used in the house of patients to get rid of the mosquito sources.	157 (40.89)	128 (33.33)	48 (12.50)	51 (13.28)	2.02	1.03
3. All coconut shells are turned upside down in the house of patients to get rid of the mosquito sources.	146 (38.02)	150 (39.06)	59 (15.36)	29 (7.55)	2.08	0.91
4. All jar covers in the house of patients are closed to get rid of the mosquito sources.	133 (34.64)	115 (29.95)	55 (14.32)	81 (21.09)	1.78	1.14
5. Elimination of mosquito breeding sources is done in the house of the patients by other methods.	133 (34.64)	116 (30.21)	64 (16.67)	71 (18.49)	1.81	1.10

Part 5: Relationship between personal data and factors related to the prevention of DF of the caretakers

5.1 Relationship between personal data and factors related to the knowledge on DF of the caretakers

As for the relationship between personal data and factors related to the knowledge on DF, the findings showed that age was related to the knowledge level with statistical significance at the 0.05 level (P = 0.041), meaning that 93.33% of the caretakers who were younger than 20 years old had a higher level of knowledge than the caretakers aged over 60 years (90.91%).

Furthermore, the findings indicated that there was no relationship between gender, religion, occupation, education, income, number of caretakers providing care for DF patients, relationship between the patients and the caretakers, having DF patients, experience on care of DF patients, understanding of patients' DF status, and knowledge. In addition, the relationship between marital status and knowledge level could not be determined as described in Table 4.10.

Table 4.10: Relationship between personal data and factors related to the knowledge on DF

Personal Data	Knowledge Levels		Total	X^2	P-Value
	High	Medium			
Gender					
- Male	94	16	110	0.038	0.846
	(85.45)	(14.55)	(100.00)		
- Female	232	42	274		
	(84.67)	(15.33)	(100.00)		
Religion					
- Buddhism	286	48	334	1.075	0.300
	(85.63)	(14.37)	(100.00)		
- Islam	40	10	50		
	(80.00)	(20.00)	(100.00)		
Age					
- Younger than 20 years old	42	3	45	11.552	0.041
	(93.33)	(6.67)	(100.00)		
- 20 – 29 years old	50	10	60		
	(83.33)	(16.67)	(100.00)		
- 30 – 39 years old	110	13	123		
	(89.43)	(10.57)	(100.00)		
- 40 – 49 years old	24	99	123		
	(19.51)	(80.49)	(100.00)		
- 50 – 59 years old	15	7	22		
	(68.18)	(31.82)	(100.00)		
- Older than 60 years old	10	1	11		
	(90.91)	(9.09)	(100.00)		

Table 4.10: (Cont.) Relationship between personal data and factors related to the knowledge on DF

Personal Data	Knowledge Levels		Total	X^2	P-Value
	High	Medium			
Occupation					
- Farmer, gardener, agriculturist	206 (83.40)	41 (16.60)	247 (100.00)	2.403	0.662
- Merchant	21 (84.00)	4 (16.00)	25 (100.00)		
- Government officer or public enterprise employee	6 (100.00)	-	6 (100.00)		
- Employee	43 (86.00)	7 (14.00)	50 (100.00)		
- Others	50 (89.29)	6 (10.71)	56 (100.00)		
Education					
- No formal education	7 (77.78)	2 (22.22)	9 (100.00)	4.97	0.29
- Primary education	218 (82.58)	46 (17.42)	264 (100.00)		
- Secondary education/ Vocational certificate	80 (91.95)	7 (8.05)	87 (100.00)		
- Diploma	14 (87.50)	2 (12.50)	16 (100.00)		
- Bachelor's degree	7 (87.50)	1 (12.50)	8 (100.00)		

Table 4.10: (Cont.) Relationship between personal data and factors related to the knowledge on DF

Personal Data	Knowledge Levels		Total	X^2	P-Value
	High	Medium			
Monthly income					
- Less than 5,000	52	11	63	0.49	0.92
Baht	(82.54)	(17.46)	(100.00)		
- 5,000 – 10,000	210	35	245		
Baht	(85.71)	(14.29)	(100.00)		
- 10,001 – 15,000	55	10	65		
Baht	(84.62)	(15.38)	(100.00)		
- More than 15,000	9	2	11		
Baht	(81.82)	(18.18)	(100.00)		
Marital Status					
- Single	62	2	64	17.90	0.00
	(96.88)	(3.13)	(100.00)		
- Married	254	50	304		
	(83.55)	(16.45)	(100.00)		
- Widowed	7	6	13		
	(53.85)	(46.15)	(100.00)		
- Divorced/	3	-	3		
Separated	(100.00)		(100.00)		
Number of Caretakers Providing Care for DF Patients					
- 1 – 2 persons	290	53	343	0.30	0.856
	(84.55)	(15.45)	(100.00)		
- 3 – 4 persons	29	4	33		
	(87.88)	(12.12)	(100.00)		
- 5 – 6 persons	7	1	8		
	(87.50)	(12.50)	(100.00)		

Table 4.10: (Cont.) Relationship between personal data and factors related to the knowledge on DF

Personal Data	Knowledge Levels		Total	X^2	P-Value
	High	Medium			
Relationship between the patient and the caretaker					
- Child	129	24	153	1.40	0.71
	(84.31)	(15.69)	(100.00)		
- Father and mother	102	14	116		
	(87.93)	(12.07)	(100.00)		
- Brother, sister,	26	5	31		
aunt, uncle,	(83.87)	(16.13)	(100.00)		
grandfather,					
grandmother					
- Others	69	15	84		
	(82.14)	(17.86)	(100.00)		
Experience with DF of family members in the past five years					
- No	305	55	360	0.14	0.71
	(84.72)	(15.28)	(100.00)		
- Yes	21	3	24		
	(87.50)	(12.50)	(100.00)		
Experience taking care of DF patients					
- No	293	53	346	0.13	0.72
	(84.68)	(15.32)	(100.00)		
- Yes	33	5	38		
	(86.84)	(13.16)	(100.00)		
Understanding of the patients' DF status					
- No	62	17	79	3.19	0.07
	(78.48)	(21.52)	(100.00)		
- Yes	264	41	305		
	(86.56)	(13.44)	(100.00)		

5.2 Relationship between personal data and factors related to the perception of susceptibility and severity of DF

As regards the relationship between personal data and factors related to the perception of susceptibility and severity of DF, the findings showed that education was related to the perception of susceptibility and severity of DF with statistical significance at the 0.05 level (P= 0.001). This meant that 66.67% of the caretakers, who had no formal education, had the perception of susceptibility and severity of DF at a medium level when compared with the caretakers obtaining a bachelor's degree (87.50%).

Furthermore, the relationship between the patients and the caretakers was found to be related to the perception of susceptibility and severity of DF with statistical significance at the 0.005 level (P = 0.029). In other words, the caretakers who were fathers and mothers had the perception of susceptibility and severity of DF at a high level (34.48%) when compared with others (15.48%).

On the other hand, the study findings indicated that there was no relationship between gender, religion, age, occupation, marital status, number of caretakers providing care for DF patients, history of having DF patients in the family in the past five years, experience with provision of care for DF patients, and understanding of patients' DF status and perception of susceptibility and severity of DF. In addition, the relationship among the number of relations, the order of children of patients, and perception of susceptibility and severity of DF could not be found as described in Table 4.11.

Table 4.11:   Relationship between personal data and factors related to the perception
of susceptibility and severity of DF

Personal Data	Levels of Perception of susceptibility and Severity of DF		Total	X^2	P-Value
	High	Medium			
Gender		·			
- Male	29	81	110	0.003	0.274
	(26.36)	(73.64)	(100.00)		
- Female	73	201	274		
	(26.64)	(73.36)	(100.00)		
Religion					
- Buddhism	84	250	334	2.625	0.105
	(25.15)	(74.85)	(100.00)		
- Islam	18	32	50		
	(36.00)	(64.00)	(100.00)		
Age					
- Younger than 20 years old	11	34	45	3.461	0.629
	(24.44)	(75.56)	(100.00)		
- 20 – 29 years old	18	42	60		
	(30.00)	(70.00)	(100.00)		
- 30 – 39 years old	36	87	123		
	(29.27)	(70.73)	(100.00)		
- 40 – 49 years old	32	91	123		
	(26.02)	(73.98)	(100.00)		
- 50 – 59 years old	4	18	22		
	(18.18)	(81.82)	(100.00)		
- Older than 60 years old	1	10	11		
	(9.09)	(90.91)	(100.00)		

Table 4.11: (Cont.) Relationship between personal data and factors related to the perception of susceptibility and severity of DF

Personal Data	Levels of Perception of susceptibility and Severity of DF		Total	X^2	P-Value
	High	Medium			
Occupation					
- Farmer, gardener,	68	179	247	3.613	0.461
agriculturist	(27.53)	(72.47)	(100.00)		
- Merchant	8	17	25		
	(32.00)	(68.00)	(100.00)		
- Government	3	3	6		
officer, public	(50.00)	(50.00)	(100.00)		
enterprise					
employee					
- Employee	10	40	50		
	(20.00)	(80.00)	(100.00)		
- Others	13	43	56		
	(23.21)	(76.79)	(100.00)		
Education					
- No formal	3	6	9	18.503	0.001
education	(33.33)	(66.67)	(100.00)		
- Primary education	60	204	264		
	(22.73)	(77.27)	(100.00)		
- Secondary	27	60	87		
education /	(31.03)	(68.97)	(100.00)		
Vocational					
certificate					
- Diploma	11	5	16		
	(68.75)	(31.25)	(100.00)		
- Bachelor's degree	1	7	8		
	(12.50)	(87.50)	(100.00)		

Table 4.11: (Cont.) Relationship between personal data and factors related to the perception of susceptibility and severity of DF

Personal Data	Levels of Perception of susceptibility and Severity of DF		Total	X^2	P-Value
	High	Medium			
Monthly income					
- Less than 5,000	16	47	63	4.397	0.222
Baht	(25.40)	(74.60)	(100.00)		
- 5,000 – 10,000	59	186	245		
Baht	(24.08)	(75.92)	(100.00)		
- 10,001 – 15,000	24	41	65		
Baht	(36.92)	(63.08)	(100.00)		
- More than 15,000	3	8	11		
Baht	(27.27)	(72.73)	(100.00)		
Marital Status					
- Single	19	45	64	0.524	0.914
	(29.69)	(70.31)	(100.00)		
- Married	79	225	304		
	(25.99)	(74.01)	(100.00)		
- Widowed	3	10	13		
	(23.08)	(76.92)	(100.00)		
- Divorced/	1	2	3		
Separated	(33.33)	(66.67)	(100.00)		
Number of Caretakers Providing Care for DF Patients					
- 1 – 2 persons	90	253	343	2.362	0.307
	(26.24)	(73.76)	(100.00)		
- 3 – 4 persons	8	25	33		
	(24.24)	(75.76)	(100.00)		
- 5 – 6 persons	4	4	8		
	(50.00)	(50.00)	(100.00)		

Table 4.11: (Cont.) Relationship between personal data and factors related to the perception of susceptibility and severity of DF

Personal Data	Levels of Perception of susceptibility and Severity of DF		Total	X^2	P-Value
	High	Medium			
Relationship between patient and caretaker					
- Child	41	112	153	9.036	0.029
	(26.80)	(73.20)	(100.00)		
- Father or mother	40	76	116		
	(34.48)	(65.52)	(100.00)		
- Brother, sister,	8	23	31		
aunt, uncle,	(25.81)	(74.19)	(100.00)		
grandfather, or					
grandmother					
- Others	13	71	84		
	(15.48)	(84.52)	(100.00)		
Experience with DF of family members in the previous five years					
- No	94	266	360	0.602	0.438
	(26.11)	(73.89)	(100.00)		
- Yes	8	16	24		
	(33.33)	(66.67)	(100.00)		
Experience with provision of care for DF patients					
- No	91	255	346	0.123	0.726
	(26.30)	(73.70)	(100.00)		
- Yes	11	27	38		
	(28.95)	(71.05)	(100.00)		
Understanding of the patients' DF status					
- No	16	63	79	2.030	0.154
	(20.25)	(79.75)	(100.00)		
- Yes	86	219	305		
	(28.20)	(71.80)	(100.00)		

5.3 Relationship between personal data and factors related to the performance to prevent DF

Concerning the relationship between personal data and factors related to the performance to prevent DF, the study findings revealed that age was related to the factors related to the prevention of DF with statistical significance at the 0.05 level (P= 0.043).

Also, income was related to the factors related to the prevention of DF with statistical significance at the 0.05 level (P= 0.018).

However, there was no relationship between gender, religion, occupation, marital status, number of caretakers providing care for DF patients, relationship between patients and caretakers, history of having DF patients in the previous five years, experience with provision of care for DF patients, and understanding of the patients' DF status, and performance in the prevention of DF. Also, the relationship between personal data and the performance in the prevention of DF could not be found, as detailed in Table 4.12.

Table 4.12: Relationship between personal data and factors related to the performance to prevent DF

Personal Data	Performance Levels			Total	X^2	P-Value
	High	Medium	Low			
Gender						
- Male	55	42	13	110	0.123	0.940
	(50.00)	(38.18)	(11.82)	(100.00)		
- Female	142	102	30	274		
	(51.82)	(37.23)	(10.95)	(100.00)		
Religion						
- Buddhism	165	128	41	334	4.930	0.085
	(49.40)	(38.32)	(12.28)	(100.00)		
- Islam	32	16	2	50		
	(64.00)	(32.00)	(4.00)	(100.00)		
Age						
- Younger than 20 years old	16	19	10	45	18.827	0.028
	(35.56)	(42.22)	(22.22)	(100.00)		
- 20 – 29 years old	26	24	10	60		
	(43.33)	(40.00)	(16.67)	(100.00)		
- 30 – 39 years old	63	48	12	123		
	(51.22)	(39.02)	(9.76)	(100.00)		
- 40 – 49 years old	76	38	9	123		
	(61.79)	(30.89)	(7.32)	(100.00)		
- Older than 50 years old	16	15	2	33	17.184	
	(48.50)	(45.50)	(6.00)	(100.00)		

Table 4.12: (Cont.) Relationship between personal data and factors related to the performance to prevent DF

Personal Data	Performance Levels			Total	X^2	P-Value
	High	Medium	Low			
Occupation						
- Farmer, gardener, agriculturist	128 (51.82)	95 (38.46)	24 (9.72)	247 (100.00)	10.30 4	0.244
- Merchant	14 (56.00)	6 (24.00)	5 (20.00)	25 (100.00)		
- Government officer, public enterprise employee	3 (50.00)	3 (50.00)	-	6 (100.00)		
- Employee	28 (56.00)	19 (38.00)	3 (6.00)	50 (100.00)		
- Others	24 (42.86%	21 (37.50%	11 (19.64%	56 (100.00)		
Education						
- No formal education	3 (33.33)	5 (55.56)	1 (11.11)	9 (100.00)	8.740	0.365
- Primary education	131 (49.62)	102 (38.64)	31 (11.74)	264 (100.00)		
- Secondary education/ Vocational certificate	45 (51.72)	33 (37.93)	9 (10.34)	87 (100.00)		
- Diploma	11 (68.75)	4 (25.00)	1 (6.25)	16 (100.00)		
- Bachelor's degree	7 (87.50)	-	1 (12.50)	8 (100.00)		

Table 4.12: (Cont.) Relationship between personal data and factors related to the performance to prevent DF

Personal Data	Performance Levels			Total	X^2	P-Value
	High	Medium	Low			
Monthly income						
- Lower than 5,000	29	25	9	63	12.24	0.016
Baht	(46.03)	.(39.68)	(14.29)	(100.00)	5	
- 5,000 – 10,000	117	96	32	245		
Baht	(47.76)	(39.18)	(13.06)	(100.00)		
- More than 10,000	51	23	2	76		
Baht	(67.10)	(30.30)	(2.60)	(100.00)		
Marital Status						
- Single	26	25	13	64	9.719	0.137
	(40.63)	(39.06)	(20.31)	(100.00)		
- Married	164	112	28	304		
	(53.95)	(36.84)	(9.21)	(100.00)		
- Widowed	6	6	1	13		
	(46.15)	(46.15)	(7.69)	(100.00)		
- Divorced/	1	1	1	3		
Separated	(33.33)	(33.33)	(33.33)	(100.00)		
Number of Caretakers Providing Care for DF Patients						
- 1 – 2 persons	170	133	40	343	4.704	0.319
	(49.56)	(38.78)	(11.66)	(100.00)		
- 3 – 4 persons	22	8	3	33		
	(66.67)	(24.24)	(9.09)	(100.00)		
- 5 – 6 persons	5	3	-	8		
	(62.50)	(37.50)		(100.00)		

Table 4.12: (Cont.) Relationship between personal data and factors related to the performance to prevent DF

Personal Data	Performance Levels			Total	X^2	P-Value
	High	Medium	Low			
Relationship between patients and caretakers						
- Child	73	57	23	153	7.031	0.318
	(47.71)	(37.25)	(15.03)	(100.00)		
- Father or mother	68	39	9	116		
	(58.62)	(33.62)	(7.76)	(100.00)		
- Brother, sister, aunt,	17	11	3	31		
uncle, grandfather,	(54.84)	(35.48)	(9.68)	(100.00)		
or grandmother						
- Others	39	37	8	84		
	(46.43)	(44.05)	(9.52)	(100.00)		
History with DF of family members in the past five						
years						
- No	187	134	39	360	1.266	0.531
	(51.94)	(37.22)	(10.83)	(100.00)		
- Yes	10	10	4	24		
	(41.67)	(41.67)	(16.67)	(100.00)		
Experience with provision of care for DF patients						
- No	179	130	37	346	0.926	0.629
	(51.73)	(37.57)	(10.69)	(100.00)		
- Yes	18	14	6	38		
	(47.37)	(36.84)	(15.79)	(100.00)		
Understanding of the patients' DF status						
- No	42	28	9	79	0.183	0.913
	(53.16)	(35.44)	(11.39)	(100.00)		
- Yes	155	116	34	305		
	(50.82)	(38.03)	(11.15)	(100.00)		

5.4 Relationship between factors related to DF knowledge and performance to prevent DF

According to the study findings, the level of knowledge about DF was related to the performance to prevent DF with statistical significance at the 0.05 level (P= 0.006). Put another way, the persons having a higher level of knowledge about DF could have better performance when compared with persons having a medium level of knowledge about DF, as detailed in Table 4.13.

Table 4.13: Relationship between factors related to knowledge about DF and the performance to prevent DF

Knowledge Levels	Performance Levels			Total	X^2	P-Value
	High	Medium	Low			
High level	177	118	31	326	10.24	0.006
	(54.29)	(36.20)	(9.51)	(100.00)		
Medium level	20	26	12	58		
	(34.48)	(44.83)	(20.69)	(100.00)		
Total	197	144	43	384		
	(51.30)	(37.50)	(11.20)	(100.00)		

5.5 Relationship between factors related to the perception of susceptibility and severity of DF and performance to prevent DF

The perception of susceptibility and severity of DF was related to the performance to prevent DF with statistical significance at the 0.05 level (P = 0.001). This meant that persons having a higher level of perception of susceptibility and knowledge of DF could have better performance to prevent DF when compared with persons having a medium level of perception, as described in Table 4.14.

Table 4.14: Relationship between factors related to the perception of susceptibility
and severity of DF and the performance to prevent DF

Perception of Susceptibility and Severity of DF	Performance Levels			Total	X^2	P-Value
	High	Medium	Low			
High Level	68	26	8	102	13.13	0.001
	(66.67)	(25.49)	(7.84)	(100.00)		
Medium Level	129	118	35	282		
	(45.74)	(41.84)	(12.41)	(100.00)		
Total	197	144	43	384		
	(51.30)	(37.50)	(11.20)	(100.00)		