



CHAPTER IV

RESEARCH RESULTS

A cross sectional research aiming at identifying physical activities among Family Health Leaders (FHLs) in Trang province in southern Thailand, and the factors affecting its practice and intensity. Sixteen villages in Huaiyot District of Trang were selected randomly, then quota sampling methods were applied, yielding 400 informants. The informants were interviewed by the researcher between 10 February to 25 March 2004, using the questionnaire developed by the researcher. Statistical analysis using frequency, mean, standard deviation, and Pearson correlation coefficient were applied.

Results are reported in 7 sections as follow:

- Section 1: Socio-demographic characteristics of the informants.
- Section 2: FHLs' knowledge about physical activities.
- Section 3: FHLs' attitude toward physical activities
- Section 4: Enabling factors toward FHLs' physical activities.
- Section 5: Reinforcing factors toward FHLs' physical activities
- Section 6: FHLs' practice of physical activities
- Section 7: Relation between knowledge, attitude, enabling factors, and reinforcing factors and physical activities of FHLs'

Section 1: Socio-demography characteristics of the informants.

The majority of the informants are female (79%), married (78.5%), age between 31-35 (37%), with 6 years of education (65.75%), and income level between 2,801-5,000 baht (54.5%), Table 1.

Table 1: Number, and percentage of FHLs' socio-demographic characteristics (N =400).

Socio-demographic characteristics	No.	%
Gender		
Male	84	21.0
Female	316	79.0
Male: Female = 1:4		
Age		
15-20	10	2.5
21-25	42	10.5
26-30	128	32.0
31-35	148	37.0
36+	72	18.0
Mean = 40.56, SD = 10.35, Median = 40.50, Minimum =16, Maximum =69		
Education		
Less than 6 years	4	1.0
Primary education (6 years)	263	65.7
Secondary education (12 years)	76	19.0
Vocational diploma	28	7.0
Bachelor degree	26	6.5
Occupation		
Agriculture	290	72.8
Small business	25	6.2
General employee	59	14.8
Housewife	11	2.7

Table 1: (Cont.) Number, and percentage of FHLs' socio-demographic characteristics (N =400).

Socio-demographic characteristics	No.	%
Government or State enterprise employees	13	3.2
Income (in baht)		
Less than 1,800	5	1.2
1,801-2,800	35	8.7
2,801-5,000	218	54.5
5,001 and above	142	35.5
Mean = 5,288, SD =3,486.75, Median = 4,500, Minimum = 1,000, Maximum = 25,000		
Marital status		
Single	52	13.0
Married	314	78.5
Widow	32	8.0
Divorce/Separate	2	0.5

Section 2: FHLs' knowledge about physical activities.

The study found that the level of knowledge regarding physical activities and exercise of FHLs in Huaiyot District is score at 79.7%. The majority of them (77.2%) reported that exercise minimizes risk factors causing chronic diseases. Their respond to the questionnaire also showed that the majority of them (89.5%) are aware that physical activities does not limit to merely a structured and formal patterns, but also include any daily physical movement. They reported that the following house chore or daily activities can be classified as exercise: house cleaning for 45 - 60 minutes is low intensity exercise, 79.5 %; raking grasses for 30 minutes is low intensity activity, 75.9%; accumulating mileage for either walking or jogging for 150 minutes per week for 25 weeks in 6-7 months, 64.7%; and jump rope for 15 minutes is heavy activity,

64.2%. The lowest percentage of the respondents (21.5%) reported bicycling for 8 kilometers for 30 minutes is low intensity exercise. Details are in Table 2, and Table 3

Table 2: Number and percentage of FHLs who answered the questions about knowledge correctly (n = 400).

Questions	No.	%
1. Some physical activities could reduce the risk of being chronic	309	77.2
2. Physical activities do not always mean exercise	358	89.5
3. People should accumulate both walking and jogging activities of a total of 15 km per week for 25 weeks for 6-7 months	216	54.1
4. People should accumulate 100 minutes of walking and 50 minutes of running for a total of 150 minutes per week for 25 weeks for 6-7 months	259	64.7
5. Jogging 2.4 km in 15 minutes is a high intensity exercise in a short period of time	257	64.2
6. Walking up a stairway for 15 minutes is a high intensity exercise in a short period of time	205	51.2
7. Running for 2.4 kilometer in 15 minutes is a high intensity exercise in a short period of time	208	52.0
8. Riding a bicycle for 6.4 kilometer in 15 minutes is a high intensity exercise in a short period of time	191	47.7
9. Cleaning the car for 45-60 minute is a low intensity exercise	278	69.5
10. Cleaning the house for 45-60 minute is a low intensity exercise	319	79.7
11. Gardening and working with the ground for 30-45 minute are low intensity exercises	197	49.2
12. Dancing for 30 minutes is a low intensity exercise	192	48.2
13. Cutting grass with a harrow and scoop for 30 minutes is a low intensity exercise	303	75.9
14. Riding a bicycle for 8 kilometer in 30 minutes is a low intensity exercise	86	21.5

Table 3: Level of the knowledge of Physical Activity of FHLs.

Level of the knowledge	No.	%
Excellent	27	6.7
Good	134	33.5
Average	158	39.5
Fair/satisfactory	58	14.5
Poor	23	5.75

Section 3: FHLs' attitude toward physical activities

The study found that the majority of the study volunteers have positive attitude toward exercise and daily physical activity with an overall score of attitude at 2.69, an average. Almost all of the FHLs in the study, 97.9%, have positive attitude toward exercise; with 66.4% strongly agreed and 31.5% agreed with the statement. They also believe that physical activity helps prevent chronic diseases, 94.6%, with 49.5% strongly believe so, and 43.9% believe so. Most of the respondents (95.1%) were confident that with proper advise from experts they are able to do proper exercise, 51.3% believe that they can do very well, and 42.6% believe that they can do well, with only 0.5% not being confident.

When presented with negative questions, the majority of the informant (75.4%) reported that they did not believe that they could not do daily exercise: 59.5% believe that they can do daily exercise, and 15.2% strongly believe so. Only 19% of the study volunteers believe that they would have difficulty doing daily exercise. When asked if they believe that it is not difficult to adhere to daily exercise, 60.1% disagree, 11.5% strongly disagree, a total of 61.5%, which means that they believe that daily exercise is not difficult to adhere to.

It came as a surprise to the researcher, though that most of the respondents (89.6%) did not believe in modeling of good example, only 2.7% stated that they disagree that good example has impact on others' exercise behavior. Most of them (97.3%) either strongly agree, agree, or unsure with the statement, 33.5%, 56.1%, and 7.2%, respectively. The majority of them also voiced their opinion that even if with the readiness of exercise equipment, they are not able to commit to continuous exercise, 38.1 % strongly disagree, 50.1% disagree, and 7.2% unsure. These findings are negative forces against the campaign for regular exercise among FHLs in Huaiyot district.

Table 4: Percentage and mean score. (n = 400)

Attitude	Percentage					Mean
	Strongly agree (5)	Agree (4)	Uncerta in (3)	Disagree (2)	Strongly disagree (1)	
Positive Attitude						
1. Physical activities is a good activity.	66.4	31.5	2.0	0	0	4.64
2. Family leaders do physical activity is a good thing.	43.3	49.5	3.7	1.7	1.0	4.34
3. Diseases can be prevented by physical activities	54.8	39.8	2.2	1.7	1.0	4.46
4. I believe that with good advice I can exercise correctly.	47.9	47.2	3.0	1.2	0.5	4.41
5. Seeing a role model in exercise encourages me to exercise.	42.6	51.3	4.3	1.5	0.5	4.34

Table 5: Percentage and mean score. (n=400)

Negative Attitude	Percentage					Mean
	Strongly agree	Agree	Uncertain	Disagree	Strongly Disagree	
	(1)	(2)	(3)	(4)	(5)	
1. I do not believe that I can exercise daily.	8.2	9.7	6.7	59.5	15.2	3.64
2. I believe that it is difficult to exercise daily.	7.5	11.5	9.2	60.1	11.5	3.57
3. I do not believe that someone exercising everyday can influence others.	33.5	56.1	7.2	20	0.7	1.80
4. Even having exercise equipment, I can not exercise regularly.	38.1	50.1	8.0	3.2	0.5	1.78

Section 4: Enabling factors to physical activities reported by FHLs

The study found that there is sufficient home-based equipment readily available in the homes or the community of FHLs, Table 6. When asked about the presence of home-based exercise equipment, most of the respondents (96.0%) reported having housing cleaning equipment, followed by gardening equipment (93.7%), and car washing equipment, while only 30.7% reported having jumping rope, and 31.5% reported that their housing structure allowing them to walk up and down. In the community, 63% of FHLs reported that there is sports facility nearby, and 17% has a park where they can do physical fitness activities. A small number of the respondents,

18.7%, also reported that exercise equipment is available in retail stores in the community.

When asked about how FHLs divide their time for different activities in one day, 65.9% reported spending less than 8 hours at work, and 34.0% normally spend more than 8 hours each day at work. As for house chore, 36.6% reported spending less than one hour, and 63.3% more than 1 hour. Time for hobby was reported at less than one hour at 57.3%, and more than one hour for 42.6%, Table 7.

The respondent reported that the top two sources of information about physical activities for them is from TV and radio, 71.0%, and from Health Officers, 54.0%. They reported that the community broadcast is their least important source of information on physical activities, Table 8. About one-third of FHLs in this study, 36.5%, reported that they obtain knowledge about physical activity everyday, 20.3% reported getting such knowledge once a month, while the smallest number of the research participants (2.7%) reported getting the knowledge once every two weeks, Table 9.

Table 6: Number and percentage of enabling factors reported by FHLs (n = 400)

Enabling factors for physical exercise	No.	%
Having equipment for physical activities at home		
1. Equipment for house cleaning	384	96.0
2. Gardening equipment	375	93.7
3. Equipment for car wash	319	80.2
4. Landscaping equipment	274	68.5
5. Social Dancing gear	254	63.5
6. A bicycle	187	46.7
7. Sports equipment	158	39.5
8. Houses with different levels	126	31.5
9. Jump rope	123	30.7
Equipment for physical activities in the community		
1. Sports facilities	252	63.0
2. Stores in the community with sports equipment	75	18.7
3. Fitness park	68	17.0

Table 7: Number of hours for different activity in each day

	No.	%
At work		
Less than 8 hours per day	246	65.9
More than 8 hours per day	127	34.0
At home		
One hour	129	36.6
More than one hour	223	63.3
Hobbies		
One hour	144	57.3
More than one hour	107	42.6

Table 8: Source of information about physical activities

Category	No.	%
1. TV/radio	284	71.0
2. Health care persons	216	54.0
3. Village Health Volunteers	182	45.5
4. Training	145	36.2
5. Physical fitness campaign	143	35.7
6. Exercise with a group of friends	139	34.7
7. Neighbor or relatives	138	34.5
8. Printed matter such as newspaper, poster	107	26.7
9. Community broadcasting system	65	17.2

Table 9: Frequency of knowledge obtained

Frequency of knowledge obtained	No.	%
1. Everyday	144	36.5
2. Once a month	80	20.3
3. 2 time/week	58	14.7
4. Once a week	50	12.6
5. Less than once a month	37	9.3
6. Once every three weeks	14	3.5
7. Once every two weeks	11	2.7

Section 5: Reinforcing factors on physical activity of FHLs.

The results of this study showed that the top three reinforcing factors on FHLs exercise behavior is the influences form family members, friends for neighbors, and their community. They reported family member encouraging FHLs to exercise, 87.5%, following by influence form the neighbor, 74.7%, and finally if the community has policy to encourage physical activity, 74.0%. These sources of reinforcing factors must

be used when designing a campaign to improve physical activities in the community. The least important reinforcing factor as reported by the FHLs is being an organizer of a community physical activity, 14.2%, Table 10.

Table 10: Reinforcing factors on physical activity of FHLs (n=400).

Factors	No.	%
1. There is some support from your family members to do exercise.	350	87.5
2. Your neighbors suggested that you take part in an exercise club.	299	74.7
3. There are policies in your community to support exercising.	296	74.0
4. You get some recommendations about doing exercise when you examine your health.	288	72.0
5. Your friends often talk to you about exercising.	283	70.5
6. You usually acknowledge most of the physical activities in your community.	274	68.5
7. Your neighbors persuaded you to work like a team to exercise.	273	68.2
8. At least three days a week some members of your family do exercise.	272	68.0
9. When you attend meetings about activities held in the community, the group leader comes up with interesting topics.	205	51.2
10. You have been chosen as a referee for a sports competition.	57	14.2

Section 6: Practice of physical activities among FHLs (n=400).

The respondents were asked to rate 16 physical activities according to their regular practice, Table 11. Results showed the most popular activities among the respondents is house cleaning, 91.0%. The second most popular was reported being walking about 2.8 k.m., 84.3%. The popular type of exercise was reported as swimming, 4.2%.

While it seems that the respondents are doing a certain degree of physical activity it was found that intensity and regularity of the physical activity is less than optimum. House cleaning, for example, was reported as the most popular type exercise but almost half of the respondents (44.2%) reported doing the activity irregularly, with varying amount of time spending doing the activity. Only 31.6% of the respondents reported doing the house chore 45-60 minutes per day for three days a week, 11.5% reported spending the same amount of time doing the chore less than three days per week, and 12.3% reported the same activity less than 45 minutes, three days per week. Walking for 2.8 k.m., the second most popular type of exercise, on the other hand, was reported doing at a more regular and appropriate intensity. A large number of respondents (89.0%) reported being able to doing up to 35 minutes per day, three days week.

Table 11: Physical activities of FHLs in Huaiyot district, Trang province (n= 400).

Physical activity	No.	%
1. Cleaning the car	133	33.2
45–60 minutes every day/3 day/week*	21	15.7
< 45 minutes each time	17	12.7
< 3 days a week	14	10.5
Inconsistently	81	60.9
2. Cleaning the house	364	91.0
45-60 minutes every day/3 day/week*	116	31.8
<45 minutes each time	45	12.3
< 3 days a week	42	11.5
Inconsistently	161	44.2

**Table 11: (Cont.) Physical activities of FHLs in Huaiyot district, Trang province
(n= 400).**

Physical activity	No.	%
3. Playing volleyball	46	11.5
45 minutes every day/3 day/week*	2	4.3
< 45 minutes each time	2	4.3
< 3 days a week	8	17.3
Inconsistently	34	73.9
4. Gardening	324	81.0
30-45 minutes every day /3 day/week*	112	34.5
<30 minutes each time	32	9.8
< 3 days a week	20	6.1
Inconsistently	160	49.3
5. Walking about 2.8 kilometer*	337	84.3
35 minutes every day/ 3 day/week	300	89.0
< 35 minutes each time	3	0.8
< 3 days a week	5	1.4
Inconsistently	29	8.6
6. Playing basketball*	20	5.0
30 minutes every day/3day/ week	1	5.0
< 30 minutes each time	6	30.0
< 3 days a week	5	25.0
Inconsistently	8	40.0
7. Riding a bicycle about 8 kilometers	51	12.7
30 minutes every day/3 day/week*	12	23.5
<30minutes each time	6	11.7
< 3 days a week	5	9.8
Inconsistently	28	54.9

Table 11: (Cont.) Physical activities of FHLs in Huaiyot district, Trang province (n= 400).

Physical activity	No.	%
8. Dancing	110	27.5
30 minutes every day/3 day/week*	29	26.3
< 30 minutes each time	11	10.0
< 3 days a week	9	8.1
Inconsistently	61	55.4
9. Cutting the grass by	332	83.0
30 minutes every day/3 day/ week*	77	23.1
< 30 minutes each time	32	9.6
< 3 days a week	27	8.1
Inconsistently	196	59.0
10. Walking about 3.2 kilometers	209	52.3
30 minutes every day / 3 day/week*	99	47.3
< 30 minutes each time	17	8.1
< 3 days a week	10	4.7
Inconsistently	83	39.7
11. Swimming	17	4.2
20 minutes every day/3 day/week*	1	5.8
<20 minutes each time	2	11.7
< 3 days a week	2	11.7
Inconsistently	12	70.5
12. Riding a bicycle for about 6.4 kilometer*	30	7.5
15 minutes every day/3 day/week	4	13.3
< 15 minutes each time	6	20.0
< 3 days a week	5	16.6
Inconsistently	15	50.0
13. Jumping rope	54	13.5
15 minutes every day/3 day/week*	9	16.6
< 15 minutes each time	5	9.2
< 3 days a week	8	14.8
Inconsistently	32	59.2

Table 11: (Cont.) Physical activities of FHLs in Huaiyot district, Trang province (n= 400).

Physical activity	No.	%
14. Running for about 2.4 kilometer*	74	18.5
15 minutes every day/ 3 day/week	13	17.5
<15 minutes each time	6	8.1
< 3 days a week	9	12.1
Inconsistently	46	62.1
15. Walking up and down stairs*	131	32.7
15 minutes every day/3 day/week	43	32.8
<15 minutes each time	29	22.1
< 3 days a week	4	3.0
Inconsistently	55	41.9
16. Doing aerobics	144	36.0
30 minutes every day/3 day/week*	55	38.1
<30 minutes each time	6	4.1
< 3 days a week	4	2.7
Inconsistently	79	54.8

* Desirable behavior

The study found that the physical activity of the majority of volunteers is either at excellent level or good level. People who are in excellent level reported doing physical activity three times, or more, per week, and each time between 15 to 60 minutes. The popular activity was walking for 2.8 k.m. for one hour (75%), followed by house cleaning (29%). The least favorite activity was swimming (0.2%). People who are classified in the “good” group reported doing exercise with the same frequency with the excellent group, but with less than 15 minutes each time they do. The preferred activities were house cleaning (11.2%). Followed by gardening and raking the lawn (8%). The least favorite activity was volleyball (0.5%). Moderate level of exercise

to physical activity at less than 3 times per week, and between 15-60 minutes each time. Popular activity in this category is house cleaning (10.5%), followed by raking the lawn (6.7%). The least favorable activity is swimming (0.5%).

The study volunteers who were classified as the lowest level of physical activity exercise less than 3 time per week, and each time less than 15 minutes. Raking the lawn appeared to be their favorite physical activity (49%), followed by house cleaning (40.2%). The least favorable activity was reported to be basketball playing (2.0 %). The activities that they reported not doing at all were swimming (95.7%), basketball playing (95%), bicycling for 6.4 k.m. (92.5%), volleyball (88.5%), and bicycling for 8 k.m. (Table 12)

Of the 16 activities proposed to the volunteers by the researchers, the volunteers reported only one activity at excellent level, walking for 2.8 k.m. Most of the respondents reported low level of practice, or even non-practice to some of the activities such as swimming and volleyball, making the overall score of practicing all 16 activities very low. FHLs who are classified at medium practice were only 8 %. The rest of the group were classified as low level (92%) (Table 13). This issue will be discussed in detail in Chapter 5.

Table 12: Number of activity

Points	3		2		1		0		No	
	No	%	No	%	No	%	No	%	No	%
Physical activity	No	%	No	%	No	%	No	%	No	%
1. Cleaning the car	21	5.2	17	4.2	14	3.5	81	20.2	267	66.7
2. Cleaning the house	116	29.0	45	11.2	42	10.5	161	40.2	36	9.0
3. Playing volleyball	2	0.5	2	0.5	8	2.0	34	8.5	354	88.5
4. Gardening	112	28.0	32	8.0	20	5.0	160	40.0	76	19.0
5. Walking about 2.8 kilometer	300	75.0	3	0.7	5	1.2	29	7.2	63	15.7
6. Playing basketball	1	0.2	6	1.5	5	1.2	8	2.0	380	95.0
7. Riding a bicycle about 8 kilometers	12	3.0	6	1.5	5	1.2	28	7.0	349	87.2
8. Dancing	29	7.2	11	2.7	9	2.2	61	15.2	290	72.5
9. Cutting the grass by	77	19.2	32	8.0	27	6.7	196	49.0	68	17.0
10. Walking about 3.2 kilometers	99	24.7	17	4.2	10	2.5	83	20.7	191	47.7
11. Swimming	1	0.2	2	0.5	2	0.5	12	3.0	383	95.7
12. Riding a bicycle for about 6.4 kilometer	4	1.0	6	1.5	5	1.2	15	3.7	370	92.5
13. Jumping rope	9	2.2	5	1.2	8	2.0	32	8.0	346	86.5
14. Running for about 2.4 kilometer	13	3.2	6	1.5	9	2.2	46	11.5	326	81.5
15. Walking up and down stairs	43	10.7	29	7.2	4	1.0	55	13.7	269	67.2
16. Doing aerobics	55	13.7	6	1.5	4	1.0	79	19.7	256	64.0

Table 13: Level of the Practice of Physical Activity of FHLs.

Level of Physical Activity		No.	%	mean
Excellent	(Points = 40-48)	0	0.0	0.0
Good	(Points = 30-39)	0	0.0	0.0
Satisfactory	(Points = 16-29)	32	8.0	20.0
Develop	(Points = 0-15)	368	92.0	6.2

The 400 respondents were asked to volunteer for physical fitness evaluation. One hundred and seventeen respondents, 29.2 %, participated in the physical fitness evaluation, 14 male and 103 female. Most of the volunteer (65 individuals) age between 36 and 40 years old, 3 being between 15-20, 7 being 21-25, 8 being between 26-30, 34 being 31-35. Results showed that the majority of the respondents have excellent body weight (39.3%), lung capacity (49.5%), and forward flexibility (54.7%); at good level were blood pressure (91.4%), and resting pulse (60.6%); at average level were backward flexibility (64.1%), leg flexibility (25.6%), and hand grip (39.3%); at poor level were fat percentage (58.9%), and resting pulse (34.18%), Table 14.

Table 14: Physical Fitness Evaluations of FHLs (n = 117).

Physical fitness	Level				
	Excellent	Good	Average	Poor	Very poor
1. Body weight	39.3	11.9	12.8	17.9	17.9
2. Percentages of body fat	-	13.0	5.1	12.8	58.9
3. Resting heart rate	5.1	60.6	-	-	34.1
4. Blood pressure	-	91.4	-	6.8	1.7
5. Lung capacity	49.5	19.3	26.4	2.5	1.7
6. Grip strength	1.7	-	39.3	37.6	21.3
7. Back strength	2.5	5.1	64.1	2.05	7.6
8. Leg Strength	2.5	1.7	57.2	25.6	12.8
9. Flexibility	54.7	14.5	17.9	7.6	5.1
10. Cardiovascular endurance/aerobic capacity	9.4	15.3	61.5	10.2	3.4

Section 7: Relation between knowledge, attitude and practice about physical activities as reported by the volunteers.

This section explain the analysis of the relation different the practice of physical activities as reported by the study volunteers. In general, there is no statistically significant result between the variable. House cleaning, the most popular type of physical activity as reported by the FHLs, and knowledge and attitude, both positive and negative, the study found no significant relation ($p\text{-value} > 0.05$), Table 15. This finding showed once again that knowledge does not predispose behavior.

Table 15: Relationship between knowledge and attitude about house cleaning. (n=400).

Variables	Behavior			Chi-square	P-value
	Correct	Correct but irregular	Total		
Knowledge				3.586	.465
Very poor	87 (95.6)	4 (4.4)	91 (100.0)		
Poor	87 (89.7)	10 (10.3)	97 (100.0)		
Average	58 (89.2)	7 (10.8)	65 (100.0)		
Good	114 (91.2)	11 (8.8)	125 (100.0)		
Excellent	18 (85.7)	3 (14.3)	21 (100.0)		
Total	364 (91.2)	35 (8.8)	399 (100.0)		
Positive Attitude				2.586	.460
Disagree	1 (100.0)	0 (0.0)	1 (100.0)		
Uncertain	7 (77.8)	2 (2.2)	9 (100.0)		
Agree	183 (90.6)	19 (9.4)	202 (100.0)		
Strongly agree	172 (92.5)	14 (7.5)	186 (100.0)		
Total	363 (91.2)	35 (8.8)	398 (100.0)		
Negative attitude				3.467	.325
Strongly agree	15 (100.0)	0. (0.0)	15 (100.0)		
Agree	61 (88.4)	8 (11.6)	69 (100.0)		
Unsure	256 (90.8)	26 (9.2)	282 (100.0)		
Disagree	31 (96.9)	1 (3.1)	32 (100.0)		
Total	363 (91.2)	35 (8.8)	398 (100.0)		

When consider the relation between enabling factors about house cleaning and knowledge and attitude, both positive and negative, and the actual house cleaning behavior the result showed a significant relation ($P < 0.05$). However, when consider other enabling factors such as time spent at work, at home, and for hobby, and availability of exercise equipment, source of information such as health officers, village health volunteer, there is no significant relation between these factors and house cleaning (> 0.05), Table 16.

Table 16: Relation between enabling factors and reinforcing factors on physical examination: house cleaning.

Variables	Behavior			Chi-square	P-value
	Correct	Correct but irregular	Total		
Enable factors				10.524	.001
House cleaning equipment					
Yes	353 (92.2)	30 (7.8)	383 (100.0)		
No	11 (68.8)	5 (31.2)	16 (100.0)		
Total	364 (91.2)	35 (8.8)	399 (100.0)		
Availability of house cleaning equipment in the retail shops in the community				.069	.793
Yes	69 (8.8)	6 (8.0)	75 (100.0)		
No	295 (91.0)	29 (9.0)	324 (100.0)		
Total	364 (91.2)	35 (8.8)	399 (100.0)		
Time spent at work				.445	.505
Less than 8 hours per day	225 (91.8)	20 (8.2)	245 (100.0)		
More than 8 hours per day	114 (90.0)	13 (10.2)	127 (100.0)		
Total	339 (91.1)	33 (8.9)	372 (100.0)		

Table 16: (Cont.) Relation between enabling factors and reinforcing factors on physical examination: house cleaning.

Variables	Behavior			Chi-square	P-value
	Correct	Correct but irregular	Total		
Time spent on house work				2.718	.099
Less than 1 hours per day	123 (96.1)	5 (3.9)	128 (100.0)		
More than 1 hours per day	204 (91.5)	19 (8.5)	223 (100.0)		
Total	327 (93.2)	24 (6.8)	351 (100.0)		
Time spent on bobby				.261	.609
Less than 1 hours per day	131 (91.6)	12 (8.4)	143 (100.0)		
More than 1 hours per day	96 (89.7)	11 (10.3)	107 (100.0)		
Total	227 (90.8)	23 (9.2)	250 (100.0)		
Source of information					
TV viewing				.665	.415
Yes	107 (93.0)	8 (7.0)	115 (100.0)		
No	257 (90.5)	27(9.5)	284 (100.0)		
Total	364 (91.2)	35 (8.8)	399 (100.0)		
From Health officers				1.965	.161
Yes	163 (89.1)	20 (10.9)	183 (100.0)		
No	201 (93.1)	15 (6.9)	216 (100.0)		
Total	364 (91.2)	35 (8.8)	399 (100.0)		
From village Health Volunteers				.118	.732
Yes	197 (90.8)	20 (9.2)	217 (100.0)		
No	167 (91.8)	15 (8.2)	182 (100.0)		
Total	364 (91.2)	35 (8.8)	399 (100.0)		
Frequency of receiving knowledge				4.764	.029
Daily	123 (85.4)	21 (14.6)	144 (100.0)		
Once a month	76 (95.0)	4 (5.0)	80 (100.0)		
Total	199 (88.8)	25 (11.2)	244 (100.0)		

Table 16: (Cont.) Relation between enabling factors and reinforcing factors on physical examination: house cleaning.

Variables	Behavior			Chi-square	P-value
	Correct	Correct but irregular	Total		
Reinforcing factors					
Support from family members				1.627	.202
Yes	316 (90.5)	33 (9.5)	349 (100.0)		
No	48 (96.0)	2 (4.0)	50 (100.0)		
Total	364 (91.2)	35 (8.8)	399 (100.0)	1.259	.262
Advice from close friends					
Yes	252 (92.3)	21 (7.7)	273 (100.0)		
No	112 (88.9)	14 (11.1)	126 (100.0)		
Total	364 (91.2)	35 (8.8)	399 (100.0)		
Advice from close friends				.506	.477
Yes	260 (91.9)	23 (8.1)	283 (100.0)		
No	100 (90.1)	11 (9.9)	111 (100.0)		
Total	364 (91.2)	35 (8.8)	399 (100.0)		
Advice from Health officer during health check up				.294	.618
Yes	264 (91.7)	24 (8.3)	288 (100.0)		
No	100 (90.1)	11 (9.9)	111 (100.0)		
Total	364 (91.2)	35 (8.8)	399 (100.0)		

Walking for 2.8 kilometer, the second most popular physical activity among FHLs in Huaiyot district, did not show any significant relation with knowledge or attitude, Table 17.

Table 17: Relation between knowledge, attitude and physical activity: walking.

Variables	Behavior			Chi-square	P-value
	Correct	Correct but irregular	Total		
Knowledge				5.755	.218
Very poor	77 (84.6)	14 (15.4)	91 (100.0)		
Poor	78 (80.4)	19 (19.6)	97 (100.0)		
Average	52 (80.0)	13 (20.0)	65 (100.0)		
Good	113 (90.4)	12 (9.6)	125 (100.0)		
Excellent	17 (81.0)	4 (19.0)	21 (100.0)		
Total	337 (84.5)	62 (15.5)	399 (100.0)		
Positive Attitude				.536	.911
Disagree	1 (100.0)	0 (0.0)	15 (100.0)		
Uncertain	7 (77.8)	2 (2.2)	9 (100.0)		
Agree	170 (84.2)	32 (15.8)	202 (100.0)		
Strongly agree	158 (85.0)	28 (15.0)	186 (100.0)		
Total	336 (84.4)	62 (15.6)	398 (100.0)		
Negative attitude				3.467	.325
Strongly agree	15 (100.0)	0 (0.0)	15 (100.0)		
Agree	62 (89.9)	7 (10.1)	69 (100.0)		
Unsure	232 (82.3)	50 (17.7)	282 (100.0)		
Disagree	27 (84.4)	5 (15.6)	32 (100.0)		
Total	336 (84.4)	62 (15.6)	398 (100.0)		

Walking for 2.8 kilometer by FHLs showed a significant lever of relation with the following enabling factors: receiving knowledge from health worker, and receiving support from family members, $p < 0.05$, Table 18.

Table 18: P-value number of FHLs and p-value of relation between Enabling factors and physical activity, n = 400.

Variables	Behavior			Chi-square	P-value
	Correct	Correct but irregular	Total		
Enable factors					
Time spent at work				1.333	.248
Less than 8 hours per day	210 (85.7)	35 (14.3)	245 (100.0)		
More than 8 hours per day	103 (81.1)	24 (18.9)	127 (100.0)		
Total	313 (84.1)	59 (15.9)	372 (100.0)		
Time spent on house work				1.580	.209
Less than 1 hours per day	107 (83.6)	21 (16.4)	128 (100.0)		
More than 1 hours per day	197 (88.3)	26 (11.7)	223 (100.0)		
Total	304 (86.6)	47 (13.4)	351 (100.0)		
Time spent on hobby				.305	.581
Less than 1 hours per day	128 (89.5)	15 (10.5)	143 (100.0)		
More than 1 hours per day	98 (91.6)	9 (8.4)	107 (100.0)		
Total	226 (90.4)	24 (9.6)	250 (100.0)		
Source of information TV viewing				.767	.381
Yes	100 (87.0)	15 (13.0)	115 (100.0)		
No	237 (83.4)	47 (16.6)	284 (100.0)		
Total	337 (84.5)	62 (15.5)	399 (100.0)		
From Health officers				5.641	.018
Yes	146 (79.8)	37 (20.2)	183 (100.0)		
No	191 (88.4)	25 (11.6)	216 (100.0)		
Total	337 (84.5)	62 (15.5)	399 (100.0)		
From village Health Volunteers				.400	.527
Yes	181 (83.4)	36 (16.6)	217 (100.0)		
No	156 (85.7)	26 (14.3)	182 (100.0)		
Total	337 (84.5)	62 (15.5)	399 (100.0)		

Table 18: (Cont.) P-value number of FHLs and p-value of relation between Enabling factors and physical activity, n = 400.

Variables	Behavior			Chi-square	P-value
	Correct	Correct but irregular	Total		
Frequency of receiving knowledge				.087	.768
Daily	121 (84.0)	23 (16.0)	144 (100.0)		
Once a month	66 (82.5)	14 (17.5)	80 (100.0)		
Total	187 (83.5)	37 (16.5)	244 (100.0)		
Reinforcing factors Support from family members				2.475	.116
Yes	291 (83.4)	58 (16.6)	349 (100.0)		
No	46 (92.0)	4 (8.0)	50 (100.0)		
Total	337 (84.5)	62 (15.5)	399 (100.0)		
Advice from neighbors				6.268	.012
Yes	239 (87.6)	34 (12.4)	249 (100.0)		
No	98 (77.8)	28 (22.2)	126 (100.0)		
Total	337 (84.5)	62 (15.5)	399 (100.0)		
Advice from close friends				.097	.775
Yes	238 (84.1)	45 (15.9)	243 (100.0)		
No	99 (85.3)	17 (14.7)	116 (100.0)		
Total	337 (84.5)	62 (15.5)	399 (100.0)		
Advice from Health officer during health check up				.006	.939
Yes	243 (84.4)	45 (15.6)	288 (100.0)		
No	94 (84.7)	17 (15.3)	166 (100.0)		
Total	337 (84.5)	62 (15.5)	399 (100.0)		

The study found that knowledge and positive attitude has a significant level of relation with behavior, ($p < 0.05$). Negative attitude, on the other hand, did not appear to have a significant effect on behavior, Table 19.

Table 19: Relation between knowledge and attitude and aerobic physical activity.

Variables	Behavior			Chi-square	P-value
	Correct	Correct but irregular	Total		
Knowledge				10.267	.036
Very poor	21 (23.1)	70 (76.9)	91 (100.0)		
Poor	35 (36.1)	62 (63.9)	97 (100.0)		
Average	25 (38.5)	40 (61.5)	65 (100.0)		
Good	55 (44.0)	70 (56.0)	125 (100.0)		
Excellent	8 (38.1)	13 (61.9)	21 (100.0)		
Total	144 (36.1)	255 (63.9)	399 (100.0)		
Positive Attitude				9.387	.025
Disagree	0 (100.0)	1 (0.0)	1 (100.0)		
Uncertain	2 (77.8)	7 (2.2)	9 (100.0)		
Agree	60 (29.7)	142 (70.3)	202 (100.0)		
Strongly agree	81 (43.6)	105 (56.4)	186 (100.0)		
Total	143 (35.9)	255 (64.1)	398 (100.0)		
Negative attitude				6.024	.110
Strongly agree	4 (26.7)	11 (73.3)	15 (100.0)		
Agree	23 (33.3)	46 (66.7)	69 (100.0)		
Unsure	110 (39.0)	172 (61.0)	282 (100.0)		
Disagree	6 (18.8)	26 (81.2)	32 (100.0)		
Total	143 (35.9)	255 (64.1)	398 (100.0)		

The only enabling factor that has a significant level of relation with physical activity is receiving knowledge from health worker, $p < 0.05$. The other enabling factors such as availability of sports facility in the community, time spent doing different activities, different sources of information do not have a significant level of relation with behavior, $p > 0.05$, Table 20.

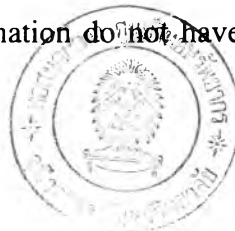


Table 20: Relation between enabling factors and reinforcing factors and physical activity: aerobic exercise.

Variables	Behavior			Chi-square	P-value
	Correct	Correct but irregular	Total		
Enable factors					
Sports facility in the community				.177	.674
Yes	89 (35.3)	163 (64.7)	252 (100.0)		
No	55 (37.4)	92 (62.6)	147 (100.0)		
Total	144 (36.1)	255 (63.9)	399 (100.0)		
Time spent at work				.027	.869
Less than 8 hours per day	87 (35.5)	158 (64.5)	245 (100.0)		
More than 8 hours per day	44 (34.6)	83 (65.4)	127 (100.0)		
Total	131 (35.2)	241 (64.8)	372 (100.0)		
Time spent on house work				.681	.409
Less than 1 hours per day	51 (39.8)	77 (60.2)	128 (100.0)		
More than 1 hours per day	79 (35.4)	144 (64.6)	223 (100.0)		
Total	130 (37.0)	221 (63.0)	351 (100.0)		
Time spent on hobby				.008	.929
Less than 1 hours per day	58 (40.6)	85 (59.4)	143 (100.0)		
More than 1 hours per day	44 (41.1)	63 (58.9)	107 (100.0)		
Total	109 (40.8)	148 (59.2)	250 (100.0)		
Source of information				2.976	.084
TV viewing					
Yes	49 (42.6)	66 (57.4)	115 (100.0)		
No	95 (33.4)	189 (66.6)	284 (100.0)		
Total	144 (36.1)	255 (63.9)	399 (100.0)		
From Health officers				27.451	.000
Yes	41 (22.4)	142 (77.6)	183 (100.0)		
No	103 (47.7)	113 (52.3)	216 (100.0)		
Total	144 (36.1)	255 (63.9)	399 (100.0)		

Table 20: (Cont.) Relation between enabling factors and reinforcing factors and physical activity: aerobic exercise.

Variables	Behavior			Chi-square	P-value
	Correct	Correct but irregular	Total		
From village Health Volunteers				2.344	.126
Yes	71 (32.7)	146 (67.3)	217 (100.0)		
No	73 (40.1)	109 (59.9)	182 (100.0)		
Total	144 (36.1)	255 (63.9)	399 (100.0)		
Frequency of receiving knowledge				.857	.355
Daily	52 (36.1)	92 (63.9)	144 (100.0)		
Once a month	24 (30.0)	56 (70.0)	80 (100.0)		
Total	76 (33.9)	148 (66.1)	244 (100.0)		
Reinforcing factors					
Support from family members				16.870	.000
Yes	139 (39.8)	210 (60.2)	349 (100.0)		
No	5 (10.0)	45 (90.0)	50 (100.0)		
Total	144 (36.1)	255 (63.9)	399 (100.0)		
Advice from neighbors				23.190	.000
Yes	120 (44.0)	153 (56.0)	273 (100.0)		
No	24 (19.0)	102 (81.0)	126 (100.0)		
Total	144 (36.1)	255 (63.9)	399 (100.0)		
Advice from close friends				14.984	.000
Yes	119 (42.0)	164 (58.0)	283 (100.0)		
No	25 (21.6)	91 (78.4)	116 (100.0)		
Total	144 (36.1)	255 (63.9)	399 (100.0)		
Advice from Health officer during health check up				7.871	.005
Yes	116 (40.3)	172 (59.7)	288 (100.0)		
No	28 (25.2)	83 (74.8)	111 (100.0)		
Total	144 (36.1)	255 (63.9)	399 (100.0)		