REFERENCES

- Ahmad, N. et al. Gender related risk factors for obesity in school children. http://apha.confex.com/apha/130am/techprogram/paper - 47274.htm
- Bray, GA. (1999). Nutrition and obesity: prevention and treatment. Nutrition, metabolism, and cardiovascular diseases: NMCD, Volume 9, issue 4, supplement, august 1999, pages 21-32 INNS 0939-4753.
- Carlos J.C. Mario R.G. Rosa P.P. (2002). The relationship of physical activity and body weight will all cause mortality. Annals of Epidemiology Volume 12, Issue 8, November 2002, pages 543-552.
- Cochran, W.G. (1963). Sampling techniques, 2nd Ed., New York: John Willey and Sons, Inc.
- Coral L. Craig. et al (2003). International physical activities questionnaire: 12 Countries reliability and validity. Official journal of the American college of sports medicine 2003.
- Chu N-F (2001). Prevalence and trends of obesity among school children in Taiwan- The Taipei children heart study. International Journal of obesity (2001) 25, 170-176.
- Do T.K.L. Thu N. N., Nguyen V.N., Nguyen X.N. Overweight and obesity trends of Hanoi students from 1995 to 2000. Journal of Practical Medicine 418/2002: 29-32.
- Do K.L. Prevalence of obesity and overweight in schoolchildren in Hanoi in 1996- 2001.

 Journal of Practical Medicine 418/2002, 29-33

- Duong T.V.(2001) Research on risk factors and initial evaluation of dietary consulting together with physical exercise in obese people in 19/8 Hospital. Thesis of master in community nutrition. Hanoi Medical University, 2001.
- Doan T.T.V. et al (2000). Findings some risk factors of obesity in adults. National Scientific Symposium on Nutrition, November-2002; 107-120.
- Deurenberg-Yap M. et al (2000). The paradox of low body mass index and high body fat percentage among Chinese, Malays and Indian in Singapore. Int J Obes Relat Metab Disord, Aug 2000; 24 (8): 1001-7
- GSO- Survey on household economy 1999. Statistic publishing house, Hanoi 2000.
- Gran, S.M. Bailey, S.M. Solomon, M.A. and Hopkin P.T. (1981) effects of meaning family members on fatness prediction. American Journal of clinical nutrition, 34, 148-158.
- Haapanen N. Miilunpalo s. et al. Association between leisure time physical activities and 10 years body mass change among working-aged men and woman. April 1997, Volume 21, Number 4 pages 288-296.
- Ha Huy Khoi, Nguyen C. K. (2002). Current nutrition and challeges in Vietnam. National Scientific Symposium on Nutrition; November-2002
- Jane Wardle (1999-2001). Socio- economic status and obesity. Duration of research November 1999- July 2001.

- James WPT. The epidemiology of obesity. In: Chadwick DJ Carder GC,eds. The origins and consequences of obesity. Chichester, Wiley, 1996: 1-16 (Ciba Foundation Symposium 201).
- Khorn GL.(1997). Nutrition and cardiovascular diseases: an Asia pacific perspective, Asia Pacific Journal of clinical nutrition, 1997; 6(2) 122-142.
- Ke-You, Dai-Wei F(2001). The Magnitude and trends of underweight and over nutrition in Asian countries. Institute of nutrition of Food hygience, China Academy of preventive medicine, Beijing. Biomed. Environment Sci.2001 June; 14(1-2) pS28. 5 p 3graps.
- Langendijk G, Wellings S, et al. (2003). The prevalence of childhood obesity in primary school children in urban KhonKaen northeast Thailand. Asia Pac J. Clin Nutr. 2003, 12(1): 66-72.
- Li Hui, A Colin bell. Overweight and obesity in children from Shenzhen, people of China.
- Cao .Q.V. Le Q.H., Do. N. D. Finding some risk factors of obese children. National Scientific Symposium on Nutrition; November-2002
- Le T.H. (1999). Following up nutritional and health status of overweight and obesity among children in Ha Noi. Journal of Practical Medicine 418/2002, 55-62.
- Le.T.H. et al (1997). Study obesity in 2 primary schools in Ha Noi. Preventive medical journal VII Number 2 (32).

- Mabel Y (1994) "factor association with obesity in primary school children in Singapore". Asia Paciffic J Clinic Nutr. Vol 3, pp.65-68
- Michael Rosenbaum (2002): Obesity in children Chapter 16 July 17, 2002.
- Nguyen K.H. et al. Overweight and obesity in Ho Chi Minh city population in 1996-2001. Journal of Practical Medicine 418/2002 22-27.
- Nguyen. M. H (2002). Prevalence and some risks factors of overweight of school children in primary shool, in Dongda, Hanoi; Journal of Practical Medicine 418/2002, 50-55.
- Nguyen T.H., Phan VT, Pham V.H (2002). Overweight and related factors in children aged 6-11 in an urban district of Haiphong. Journal of Practical Medicine 418/2002 pages 47-50.
- National Institute of Nutrition-Statistical General Department. General nutrition survey 2000 in Vietnam.
- National Institute of Nutrition. Child nutrition situation in 1999. Medical publish house Hanoi 2000.
- Power C., Lake JK., Cole TJ. (1997). Measurement and long term health risk of child and adolescents fatness. In J obese; 21: 507-526.
- Pham G.K. Remarks on some nutritional and metabolic disorders in hypertension patients. Practical medicine 418/2002 pages 11-1.

- Planning Department Ministry of Agriculture and Rural development Viet Nam food balance Sheet, Ha Noi 2002.
- Qi Zhang and Youfa Wang (2003) Socioeconomic inequality of obesity in the United State: do gender, age, and ethnicity matter?
- Reddy, B. Nirmala (1998). Body mass index and its association with socio economic and behavior variables among socioeconomically heterogeneous population of Andha Pradesh India Human biology; v. 70 no 5 (Oct 1998), p 901 –17, 1998.
- Ramos V. M. de Marins (2001): Relationship between parental nutritional status and overweight children / adolescents in the Rio de Janeiro, Brazil.
- Sobal J and Junkard, AJ. Socio economic status and obesity: A review of the literature Psychol Bull 105- 1989.
- Stein beck, Kate. Obesity in children, the importance of physical activity. Australian Journal of nutrition and dietetics; 2001 supplement, Vol: 58 issue 1,pS 28, 5p 3 graphs. http://web8.epnet.com/citation-asp.
- Simoes E.J. et al. The association between leisure time physical activity and dietary fat in American adults. American journal of public health, 1995, 85: 240-244.
- Stunkard A.J. Foch T.T. Hrubec (1986). A twin study of human obesity . Vol.256 No. 1, July4, 1986

- Stunkard AJ. Berkowitz RI, Stallings VA, Cater JR (1999). Weights of farents and infants: is there a relationship? Int J Obes Relat Metab Disord. 1999 Feb; 23 (2): 159-62.
- Surkovic N. O., Kvrgic S, Nikolic E., Knowledge of nutrition and nutritional behavior of school children and their parents in Vojvodina. Med Pregl. 2002 Nov-Dec; 55(11-12): 465-9
- Tran T.H. L. and Nguyen T. K. H. (1996-2001). Situation of overweight and obesity in people in Ho Chi Minh city 1996-2000. National Scientific Symposium on Nutrition; November-2002
- The Asia-Pacific Perspective (2000). Redefining obesity and its treatment. February 2000 ISBN # 0-9677082-1-1.
- Yoko Tada (2001). Nutritional status of children (1-5 years old) living in Bangkok congested area. Thesis requirement for degree of master of primary health care management Mahidol University
- Yi-Chin Lin et al (2003). Prevalence of overweight and obesity and its associated factors: finding from National Nutrition and Health Survey in Taiwan, 1993-1996.Preventive Medicine Volume 37, Issue 3, September 2003, Page 233-241
- WHO (2002). Global strategy on diet, physical activity and health. Fifty- fifth world health assembly A55/16. 27 March 2002.

WHO (1997). Obesity: Prevention and managing the global epidemic. Geneva 3-5 June 1997.

World Bank (2002). World development indicator.

- WHO (2003). Physical inactivity a leading cause of disease and disability, warns WHO. http://www.who.nit/mediacentre/releases/release23/en/print.html
- WHO (1999). Development of food-based dietary guidelines for the Western Pacific Region. World Health Organization regional office for the Western Pacific 1999.
- Westerterp K.R. Goran MI. Relationship between physical activities related energy expenditure and body composition: a gender difference. International journal of obesity and related metabolic disorders, 1997,21: 184-188.
- Weelman N.S. Causes of consequences of adult obesity: health, socio and economic impacts in the United State. Asia Paciffic Journal of Clinical Nutrition Volume 11 issue s8, Page S705- December 2002.



APPENDIX A

OPERATIONAL DEFINITION OF TERMS

1. Definition of obesity and overweight

- Definition of obesity (WHO, 1997): Obesity is defined simply as condition of abnormal or excessive fat accumulation in adipose tissues, to the extent that health may be impaired.
- Overweight is defined as the excess amount of body weight that include, muscle, bone, fat, and water.
- Children: Using Body Mass Index percentile (SHANES: National Health and Nutrition Education Survey)

Table 4.29: Classification of BMI percentile in children

BMI	Classification
Under 5 th percentile	Underweight
At 5-84.9 percentile	Normal
At 85-94.9 percentile	Overweight
Up or above 95 percentile	Obesity

Cola et al (2000)

2. Mothers' knowledge

Knowledge of mother means knowledge on quality of diet, quantity of diet, balanced diet and physical activities.

3. Mothers' attitude

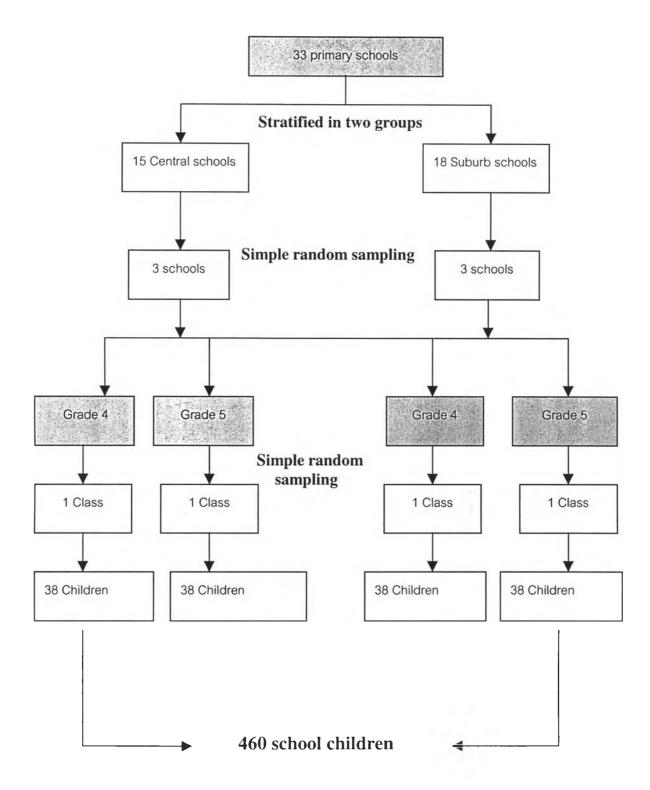
This means cultural attitude, belief, body image, and attitude on physical activities

4. Practice of mother

This refers to mothers' food practices such as kinds of food, the number of meals per day, regularity of meals, and physical activities.

APPENDIX B

Figure 7: Sampling Scheme



APPENDIX C

QUESTIONNAIRE FOR CHILDREN

ID	NO	7	 	_	
	4 V V	<i>-</i> • •	 		

Name of child
Date Survey
Part II. General characteristics of children
1. Age:years
Birthday of the child: Day MonthYear
2. Gender: (1) Male (2) Female
3. How many brothers and sisters you have got?
4. Position in the family:
(1) First child
(2) Middle child
(3) Youngest child
(4) Single child
5. Weight: kgs
6. Heightcms
7. Waist circumferencecms
8. Hip circumferencecms
Part II. Physical activities
The question will ask you about the time you spent being physical active in the last 7
days.
Think about all the vigorous activities that you did in the last 7 days. Vigorous physical
activities refer to activities that take hard physical effort and make you breath much
harder than normal. Think only those activities that you did for at least 10 minutes at a
time.
9. During the last 7 days, on how many days did you do vigorous
physical activities like aerobics, playing football, karate, judo or fast cycling?
If Yes,days per week

If no vigorous physical activities carried out, please proceed to question 11
10. How much time did you spend for vigorous physical activities on those days?
hours per day
minutes per day
Don't know / Not sure
Think about all the moderate activities that you did in the last 7 days. Moderate activities refer to activities that take moderate amount physical effort and make you breathe some what harder that normal. Think only about those physical activities that you did for at least 10 minutes at a time. 11. During the last 7 days, on how many days did you do moderate physical activities like cycling at regular pace, playing badminton, brisk walking, swimming? Do not
include walking
days per week If no moderate physical activities carried out, proceed to question 13
12. How much time did you spend doing moderate physical activities on those days?
hours per day
minutes per day
Don't know / Not sure
Think about the number of times you walked in the last 7 days. This includes at home, walking from place to place, and any other walking that you did solely for recreation, sport, exercise, or during leisure time.
13. During the last 7 days, on how many days did you walk to school at least 10 minutes at a time?
days per week If not walked, please proceed to question 15
14. How much time did you spend walking on one of those days?minutes per dayhours per day
•

Don't know / Not sure
This question is about the time you spent sitting on weekdays during the last 7 days.
Include time spent at home, while in class and during leisure time. This may include
time spent sitting at desk, visiting friends, reading, or sitting or lying down to watch
television
15. During the last 7 days, how much time did you spend sitting on a week day?
minutes per day
hour per day
Don't know /Not sure
Part III. Knowledge of children
Check on the foods in each line that you think is better for your health
22ice cream ORfresh fruit (water melon)
23fruit juice ORCoca cola/fanta
24animal fat ORvegetable oil
26 meat ORfish
Please put $(\sqrt{)}$ mark in front of the correct answers for coding
27. How many meals you consider good (1) <3 meals

27. How many meals you consider good	_ (1) <3 meals
nutrition?	_ (2) 3-4meals
	_ (3) >4 meals
28. Are physical activities good for health?	_ (1) Yes
	_ (2)No
	_ (3) Don't know
29. How long should you exercise every day?	_ (1) < 30 minutes
	_ (2) ≥ 30 minutes

Part IV. Attitude of children

Please put $(\sqrt{)}$ mark in front of the correct answers

for coding

20 777	(1) E	
30. What do you think of your physical	_ (1) Too thin	
appearance?	_ (2) Just right	
	_ (3) Too fat	
31. You think excessive drinking of sweet	_ (1) Agree	
beverages (Coca cola, Pepsi etc.)is good for health	_ (2) Undecided	
	_ (3) Disagree	
32. You think meat with fat is unhealthy	_ (1) Agree	
	_ (2) Undecided	
	_ (3) Disagree	
34. You like to involve in physical activities (_ (1) Agree	
Playing football, badminton, etc.) every	_ (2) Undecided	
	_ (3) Disagree	
34. You think physical activities are necessary	_ (1) Agree	
	_ (2) Undecided	
	_ (3) Disagree	
35. You don't like spending all your time for	_ (1) Agree	
studies	_ (2) Undecided	
	_ (3) Disagree	

Thank you for your participation and cooperation in this research

APPENDIX D

Questionnaire	for	Parents/Care-takers

Questionnaire for raients, Care-takers
IDNo
Part I: Socio-demographic features of parents
Please put your answers in the blanks or put $()$ mark in the check boxes
1. Age of motheryears
Last birthday
2. Age of fatheryears
Last birthday
3. Mother's education:
(1) Below primary school
(2) Finished primary school
(3) Finished secondary school
(4) Above secondary school
4. Family size
\square (1) < 3 members
(2) 3 –5 members
(3) > 5 members
5. Type of family
(1) Extended
(2) Nuclear
6. Family income:
(1) < 300.000 dong / person/ month
(2) 300.000- 500.000 dong / person/month
(3) > 500.000 dong/person/month
7. Mother's occupation
(1) Worker
(2) Government staff
(2) House wife
(3) Others

8. Father's occupation			
(1). Worker			
(2). Government staff			
(3). House wife			
(4). Others (specify)			
9. Weight of mother(kgs)			
10. Height of mother(cms)			
11. Weight of father(kgs)			
12. Height of father (cms)			
Part II. Practice of mother			
13. How many meals you eat every day?			
meals/day			

Please put $(\sqrt{)}$ mark in front of the correct answers

14. Which of the following food list below you	_ (1)) Fatty meat
use most frequently?	_ (2) Lean meat
	_ (3) Fish
15. Which one of the following items listed below yo	(1) Animal fat
most frequently to cook?	_ (2)Vegetable oil
16. How often did you include vegetable in your	_ (1) (1) Every meal
meals?	_ (2) Some time
	_ (3) Rarely Agree
17. Do you have snacks on chips and biscuits,	_ (1) Yes
candy?	_ (2) No
18. Do you have snack on after dinner before going	_ (1) Yes
to bed?	_ (2) No
19. Do you use foods as rewards for your children?	_ (1) Yes
	_ (2) No
20. Do you encourage your children to take part in	_ (1) Yes
physical activities?	_ (2) No

Part III. Knowledge of mother

Please put $(\sqrt{)}$ mark in front of the correct answers			
21. Selected food in each item you think good for health			
a) (1) Fish or (2) pork			
b) (1) Vegetable oil or (2) animal fat			
22. What should be the normal composition of your die	et?		
(Answers more than one)			
(1) Proteins (meat, fish, eggs)			
(2) Carbohydrates (Rice, corn, tubers)			
(3) Lipids (Oil /fat)			
(4) Vitamins and minerals (vegetables, fruits)			
23. What kind of foods should not be over-eaten?			
(1) Cereal (rice, corn) (6) Lean me	at, fish		
(2) Fat/ Oil. (7) Sugar/Sv	veets		
(3) Fruits (8) Vegetab	les		
(4) Organ meat			
(5) Others (specify)			
24. Eating less or eating more lead to malnutrition	_ (1) Yes		
	_ (2) No		
	_ (3) Don't know		
25. Are physical activities good for health?	_ (1) Yes		
	_ (2) No		
	_ (3) Don't know		
26. How long should you exercise every day?	_ (1) < 30 minutes		
	(2) > 30 minutes		
26. Do you think that children need to do physical	_ (1) Yes		
activities?	_ (2) No		
	_ (3) Don't know		
27. Is physical activity necessary for prevention of	_ (1) Yes		
weight gain?	_ (2) No		
	_ (3) Don't know		

Part IV. Attitude of mother

Please put $(\sqrt{})$ mark in front of the correct answers

28. Do you want your child become overweight?	_ (1) Yes
	_ (2) No
29. Do you think your child	_ (1) too thin
	_ (2) just right
	_ (3) too fat
30. Do you prefer to have son than daughter?	_ (1) Agree
	_ (2) Undecided
	_ (1) Disagree
31. Do you think son feed more or better food than	_ (1) Agree
daughter?	_ (2) Undecided
	_ (1) Disagree
32. You think children need to eat as much as	_ (1) Agree
possible	_ (2) Undecided
	_ (1) Disagree
33. Overeating of fatty or sweet food is not good for	_ (1) Agree
health	_ (2) Undecided
	_ (1) Disagree
34. You think physical activity is necessary for	_ (1) Agree
children	_ (2) Undecided
	_ (1) Disagree
35. You want your children to spend all time in	_ (1) Agree
studies	_ (2) Undecided
	_ (1) Disagree

Thank you for your participation and co-operation in this research

APPENDIX E

Proposal for Advance Money

Thesis Title: Assessment of overweight and obesity in primary school children in

Thainguyen city, in Vietnam From: NGUYEN THI TO UYEN

Scholar of DETEC

University: Chulalongkorn, College of Public Health MPH (Health System Development)

Duration: 2003-2004

OBJECTIVE:

- Research proposal

- Pretest of questionnaires

-Training of data collectors - Data collection

Place of data collection: Primary Schools in Thai Nguyen city, Vietnam

Total sample for: 460 school children and their parents (total 920 questionnaires)

Time:

8th January- 8 February 2004

Description of expense for data collection

No	Item	Unit	Price	Unit	Total Budget
			(Baht)	(number)	(Baht)
1	Train interviewers				
	- Participant	Person	200/p	10p* 1 day	2,000
	- Trainer	Person	300/p	lp* lday	300
2	Translation				
	-Hiring translator	Person	1000	1	1,000
3.	Pre- testing				
	- Interviewers	Person	300	2 p *4day	2,400
	- Photocopy	Page	1	100	100
	- Data processing	Person	200	2p*2 day	800
3.	Data collection:				
	-Interviewers	Person	300/p	10p*10day	30,000
	-Photocopy	Ques.	10/p 920 q		9,000
	-Stationery	Set	50	50	250
	- Data processing	Person	200/p	2p* 10day	2,000
		Grand total:			47,850

Representative of the College of Public Health Chulalongkorn University.

(scholar)

APPENDIX G

Table 4.29: Frequency and percentage of responses to questions on knowledge

N = 460

Items (Total numbers of items:8)	True a	nswers	Wrong answer and don't know				
,	n	%	n	%			
1. Select the foods in each item that you think is better for your health							
1.1. Ice cream or fresh fruit	420	91.3	39	8.0			
1.2. Fruit juice or coca-cola / fanta	387	84.1	73	15.9			
1.3. Animal fat or vegetable oil	322	70.0	138	30.0			
1.4. Meat or fish	304	66.1	156	33.9			
5. How many meals you consider good nutrition?	413	89.8	47	10.2			
6. Are physical activities good for health?	426	92.6	54	11.4			
8. Time should do exercise	341	74.1	119	25.9			

Table 4.30: Frequency and percentage of responses to questions on attitude

Items	True a	answers		answer
(Total numbers of items:6)	n	%	n	%
1. What do you think of your physical appearance?	314	68.3	146	31.7
2. You think excessive drink of sweet beverages	397	86.3	63	13.7
3. You think eating a lot meat with fat is unhealthy	299	65.0	161	35.0
4. You like to involve in physical activities	447	97.2	13	2.8
5. You think physical activities are necessary	434	94.3	26	5.7
6. You do not like spending all your time for studies	412	89.6	48	10.4

Table 4.31: Frequency and percentage of responses to questions on practices

N= 460

Items (Total numbers of items:8)	True a	nswers		g answer and n't know				
,	n	%	n	%				
1. Number of meals per day	265	57.6	195	42.5				
2. What kind of food you used most frequently?								
2.1 Fatty meat	265	57.6	195	42.5				
2.2. Lean meat	198	43.0	262	57.0				
2.3 Fish	169	36.7	291	63.3				
3. Did you usually use animal fat or vegetable oil to cook food?	289	62.8	171	37.2				
4. Did you include vegetable in your meals every day?	376	81.7	84	18.3				
5. Did you have snack on after dinner before going to bed?	353	76.7	106	23.0				
6. Did you have snacks on chips and biscuits, candy?	341	74.1	119	25.9				
7. Did you use foods as rewards for children?	290	63.0	169	36.7				
8. Did you encourage your child to take part in physical activities	434	94.3	26	5.7				

Table 4.32: Frequency and percentage of mothers answers questions by knowledge

Items	True answers		Wrong a	nswers	Т	otal
	n %		n	%	n	%
1. Pork is better than fish, isn't it?	205	44.6	255	55.4	460	100
2. Eating animal fat is better than vegetable fat, isn't it?	309	67.2	151	32.8	460	100
3. What should be the normal* composition of your diet?	296	64.3	164	35.7	460	100
4. What kind of foods should not be over-eaten?*	113	24.6	347	75.4	460	100
5. Eating less or eating more lead to malnutrition isn't it?	420	91.3	40	8.7	460	100
6. Are physical activities good for health?	433	94.1	27	5.9	460	100
7. How long should you exercise every day?	182	39.6	287	60.4	460	100
8. Are physical activities necessary for prevention of weight gain?	423	92.0	37	8.0	460	100

Table 4.33: Frequency and percentage of mothers answers questions by attitude

Items	True answers		Wrong a	nswers	Т	otal
	n	%	n	%	n	%
1. Do you want your child become overweight?	77	16.7	383	83.3	460	100
2. What do you think your child about physician appearance?	315	68.5	145	31.5	460	100
3. Do you prefer to have son than daughter?	390	84.8	70	15.2	460	100
4. Do you think son feed more or better food than daughter?	416	90.4	44	9.6	460	100
5. Do you think children need to eat as much as possible?	396	96.1	64	13.9	460	100
6. Overeating of sweet food is not good for health?	429	93.3	64	13.9	460	100
7. Do you think physical activities are necessary for children?	454	98.7	6	1.3	460	100
8. Do you want your children spend all time in studies?	370	80.4	90	19.6	460	100

APPENDIX F

SCHEDULE ACTIVITIES

No Activities		November				December				January				February				March				April				May			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	2 3	3 4	1	1	2	3	4	1	2	3	4	1	2	3	4
1 Writing proposal		e i																											
2 Submit first draft				3																									
3 Revise first draft																													
4 Submit for proposal exam							ea.																						
5 Proposal exam																													
6 Revise proposal									5																				
7 Recruit and train interviewers										4																			\Box
8 Pretest questionnaire																													
9 Revise questionnaire																													
10 Conduct structure interviews													î.																
11 Data management																													
12 Data analysis																													
13 Report writing																				. ' }									
14 Submit for final defense																													
15 Thesis exam																													
16 Revision																													\Box
17 Submit as the final product																													

CURRICULUM VITAE

Name NGUYEN THI TO UYEN

Gender Female

Date of Birth 16 June, 1975

Education Medical Doctor, Thainguyen Medical College, Vietnam

(1998)

Bachelor of English, Hanoi University foreign Languages,

Vietnam (2000).

Current Office Social Medicine Department, Thainguyen Medical College

Thai Nguyen University, Thainguyen city, Vietnam

Address Office Thainguyen Medical College, No. 284 Luong Ngoc Quyen

Street, Thai Nguyen city, Vietnam

Telephone Number 00-84-280-834579

E-mail Address ngtouyen75@vahoo.com

