

DEVELOPMENT AND EVALUATION OF OR-YOR-NOI PROJECT TO  
PROMOTE APPROPRIATE DRUG USE IN COMMUNITY,  
KHAMKHUENKAEW DISTRICT, YASOTHORN PROVINCE

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เขื่อนแก้ว จังหวัดยโสธร

นายกาญจนพงษ์ เพ็ญทองดี

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาวิทยาศาสตรมหาบัณฑิต

สาขาวิชาเภสัชศาสตร์สังคมและบริหาร

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กาญจนพงษ์ เพ็ญทองดี : การพัฒนาและประเมิน โครงการ อย.น้อย เพื่อส่งเสริมการใช้ยาที่เหมาะสมในชุมชน ของอำเภอคำเขื่อนแก้ว จังหวัดยโสธร (DEVELOPMENT AND EVALUATION OF OR-YOR-NOI PROJECT TO PROMOTE APPROPRIATE DRUG USE IN COMMUNITY, KHAMKHUENKAEW DISTRICT, YASOTHORN PROVINCE) อ. ที่ปรึกษาวิทยานิพนธ์หลัก : ผศ.ดร.ยุพดี สิริสินสุข,อ. ที่ปรึกษาวิทยานิพนธ์ร่วม ผศ.ภญ.ดร.นิยดา เกียรติยิ่งอังศุลี,99 หน้า.

นับแต่ปัญหาการใช้ยาในชุมชนที่ยังเป็นปัญหาอยู่ กลุ่มนักเรียน อย.น้อย ได้มีการดำเนินกิจกรรมและโครงการ เพื่อเพิ่มความปลอดภัยในด้านอาหารปลอดภัยและเครื่องสำอางปลอดภัย โดยการศึกษานี้มีวัตถุประสงค์เพื่อศึกษาการพัฒนาและประเมินผลโปรแกรมของนักเรียน อย.น้อย ที่ออกแบบเพื่อการแก้ปัญหาการใช้ยาที่ไม่เหมาะสมในชุมชน การศึกษา เป็นแบบกึ่งทดลอง โดย Instruction Systems Design โมเดล เป็นเครื่องมือในการพัฒนากระบวนการและเสริมพลังในการพัฒนากิจกรรมของเด็กนักเรียน

กิจกรรมดำเนินการในระยะเวลา 3 เดือน ระหว่างเดือน ธันวาคม 2553 ถึง เดือนมีนาคม 2554 เริ่มตั้งแต่การสำรวจยาไม่เหมาะสมและผลิตภัณฑ์สุขภาพไม่เหมาะสม, การเดินรณรงค์, ประชาสัมพันธ์ในโรงเรียน, ประชาสัมพันธ์ในวิทยุและหอกระจายข่าวในชุมชน, แผ่นพับ, นวัตกรรมนิทาน 6 แฉก, และบันทึกความดี การศึกษาวัดผลหลัก 3 ด้าน ประกอบด้วยการกระจายยาที่ไม่เหมาะสมในร้านชำทั้งความรู้และจำนวนรายการยาไม่เหมาะสมที่จำหน่าย, องค์กรความรู้ของสมาชิกในครัวเรือนนักเรียน อย.น้อย, และทัศนคติของนักเรียน อย.น้อย ต่อการใช้ยาไม่เหมาะสมผล จากการดำเนินกิจกรรมพบว่า รายการยาที่ไม่เหมาะสมในร้านชำลดลง จาก 75.42% (34 จาก50 ร้านชำ) เป็น 54.40% (28 จาก 50 ร้านชำ) รายการยาไม่เหมาะสมเฉลี่ยลดลง จาก 8.25 เป็น 6.75 จำนวนสมาชิกในครัวเรือนที่ผ่านเกณฑ์การประเมินความรู้เพิ่มขึ้น จาก 47.33% (71 คน จาก 150 คน) เป็น 67.33% ( 101 คนจาก 150 คน) นักเรียนกลุ่มตัวอย่างมีองค์ความรู้และระวังในการใช้ยาที่มีการจำหน่ายในร้านชำมากขึ้น การศึกษาได้ยืนยันว่า นักเรียน อย.น้อย เป็นกลุ่มสำคัญที่ช่วยส่งเสริมการใช้ยาเหมาะสมในชุมชนได้

ภาควิชา เภสัชศาสตร์สังคมและบริหาร  
 สาขาวิชา เภสัชศาสตร์สังคมและบริหาร  
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Since the problem of inappropriate drug use still has been found in the community. Moreover, OR-YOR-NOI students have been involved in several activities aiming to improve the safety use of food and cosmetic use. The study objectives were to develop and evaluate the program that was initiated by the OR-YOR-NOI students in solving the inappropriate drug use in their communities. The study design was quasi-experimental study. ISD, model was employed as the process to empower the students to develop their interventions.

The interventions were implemented in three months from December 2010 to March in 2011. The activities ranged from inappropriate health product survey, walking campaign, school announcement, community radio announcement, brochure, Six-pages novel, and good faith diary. The study measured three main outcomes including the availability of inappropriate drug in the groceries both in form of the number of grocery that sold inappropriate drug and the number of drug items, the knowledge of OR-YOR-NOI students' families members, the OR-YOR-NOI students' attitudes toward the inappropriate drugs. The results showed that after the implementation, the availability of inappropriate drug in groceries decreased from 75.42% (34 from 50 groceries) to 54.5% (28 from 50 groceries), the average number of inappropriate drug found was also decrease from 8.25 to 6.75, the number of family member who passed the knowledge exam increased from 47.33% (71 from 150 family members) to 67.33% (101 from 150 family members). It was found that the target students have had more knowledge and awareness about the drug safety and what drugs can be sold in the groceries legally. The study confirms that OR-YOR-NOI student is one of the potential groups who can promote the appropriate drug use in community.

Department : Social and Administrative Pharmacy Student's Signature.....

Field of Study: Social and Administrative Pharmacy Advisor's Signature.....

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## Contents

	Page
ABSTRACT (THAI).....	iv
ABSTRACT (ENGLISH).....	v
ACKNOWLEDGEMENTS.....	vi
CONTENTS.....	vii
LIST OF TABLES.....	ix
LIST OF FIGURES.....	x
CHAPTER	
I INTRODUCTION.....	1
Research Question.....	3
Objectives.....	3
Expected Benefit.....	4
Definition of Terms.....	4
Conceptual Framework.....	5
II LITERATURE REVIEW.....	6
Pharmaceutical product problem in community.....	6
OR-YOR-NOI, junior FDA: An initiative model for consumer protection in school and community.....	8
Problem solving role development concept.....	14
Analysis phase.....	15
Design in ISD phase.....	16
Development of Instructional Design phase.....	17
Implement or Delivering the Learning Platform in Instructional Design phase.....	18
Evaluation in Instructional Design phase.....	18
III METHODOLOGY.....	20
Study Design.....	20
Population.....	20
Sample and sampling method.....	20
Operation plan.....	21

Study Instruments.....	22
Data Collection .....	23
Data Analysis.....	23
Study Planning.....	24
IV RESULTS.....	25
Characteristic of the sample.....	25
Characteristics of the intervention developed by OR-YOR-NOI students.....	27
Preparing phase.....	28
Analysis phase.....	29
Designing phase.....	30
Development phase.....	31
Implementation phase.....	33
Evaluation phase.....	34
Effect of OR-YOR-NOI student roles on promoting an appropriate drug use in community.....	37
V DISCUSSION AND CONCLUSION.....	45
Discussion.....	45
Conclusion.....	50
Recommendation.....	52
REFERENCES.....	53
APPENDICES.....	56
Appendix A Questionnaire drug knowledge (English).....	57
Appendix B Questionnaire drug use knowledge (Thai) .....	68
Appendix C In-appropriate drug available of the Questionnaire.....	87
Appendix D Table of knowledge score of student and family member's 90.....	90
BIOGRAPHY.....	99

## LIST OF TABLES

<b>Table</b>	<b>Page</b>
1 The number of Family members and student required in the study.....	21
2 The operation plan of study.....	21
3 The characteristic of OR-YOR-NOI students in each school.....	26
4 The characteristics of family member's the OR-YOR-NOI Students.....	26
5 The characteristics of groceries' owners in the community.....	27
6 The content of curriculum in preparing phase for OR-YOR-NOI student in high school.....	29
7 The contents of the training course for OR-YOR-NOI students in primary school by high school OR-YOR-NOI students.....	30
8 The availability of inappropriate drugs in groceries which was compared between before and after implementing the intervention in total 50 groceries .....	38
9 The inappropriate drug items founded in groceries store in community before and after interventions.....	38
10 The number and percentages of family's member knowledge in village which is compared between before and after running the interventions by the OR-YOR-NOI student in a household (N=150).....	40
11 The number of family members who got the drug knowledge scores in each range comparing before and after intervention.....	41
12 The experience and attitude of high school student toward the inappropriate drug sold in grocery stores.....	43
13 The knowledge about inappropriate drug use in community collected from OR-YOR-NOI student Primary and High school.....	44

## LIST OF FIGURES

<b>Figure</b>		<b>Page</b>
1	Conceptual Framework of the study: OR-YOR-NOI model to promote appropriate drug use.....	5
2	Application & Integration of curriculum studies by OR-YOR-NOI.	13
3	Instructional Design Model.....	15
4	Systematic development of a training program.....	17
5	The pictures of six pages novel.....	49

## **CHAPTER I**

### **Introduction**

Consumer protection is a major principle in coping with health and drug problems in community. At present, health promotion is becoming a main concept in health service system in Thailand. The policy of Health Promotion District Hospital is an example of the present public health policy.(1) The project also includes the concept of consumer protection as one of its main objectives for the good health of all population. The right to access the essential and correct information of services or products available in the markets and to be protected from service and product that are unsafe are some parts of consumer protection roles.

Thai society faces with several drug problems including unsafe drug, unlawful drug distribution, irrational drug use as well as the misperception about drug among people in community. Study showed that 31.2 % of the people who had universal health insurance still purchased drugs from the community grocery store, while there were no qualified personnel providing the services.(2) Moreover, overuse of antibiotics that caused the antibiotic resistance problem in Thailand becomes the major concern in health services. Nowadays, over forty percents of the total cost in health services are drug cost, and one half of drug cost is antibiotic cost.(3) In 1994, IMS presented that the value of antibiotics drug use in Thailand is 765 millions Bath, therefore it was reflected that the drug use especially antibiotic use in community must be at risk. The study suggested that empowering the people about the knowledge and information of drug and antibiotic must be needed.(4)

Khamkhuenkaew district also encountered with several drug problems. From the irrational and banned drug survey conducting by Drug System Monitoring and Development Plan, Faculty of Pharmaceutical Sciences, Chulalongkorn University and Khamkhuenkaew Hospital, the results showed that one of the grocery stores sold twelve items of illegal drugs and seven out of eleven grocery stores sold illegal drugs. In Khamkhuenkaew municipality area, the survey found that most people did not have enough knowledge about drug and self care, misunderstood about drug use including antipyretic drug, muscle relaxant and antibiotic drug etc. Although

Khamkhuenkaew district have many medical clinics, nursing clinics, drug stores and sixteen health centers, the people in community decided to access their needed drugs form grocery stores closed to their homes. The risk from unsafe drugs and unsafe health products that related to their life style in community could be the high risk for their health.

The development of “OR-YOR-NOI” project in Khamkhuenkaew district is the beginning step of consumer protection in community. “OR-YOR-NOI” is a model that is supported by the Thai Food and Drug Administration. “OR-YOR-NOI” is the students who are trained to be health consumer protection volunteers in the schools and communities. They act as the inspectors of food and health product safety(5) Their roles are now recognized as one of the best models to tackle the health product and drug problems in community levels around the country.

Khamkhuenkaew district, Yasothorn province is one of the areas that have implemented the OR-YOR-NOI Project. The project has been implemented under the supervision of the pharmacists in the Pharmacy Department in the Khamkhuenkaew Community Hospital. The project has been done firstly to introduce the concept of health products and food consumer protection in school and community for 6 years. The development of the project can be divided into 3 phases. The first phase started from setting “the Model in Khamkhuenkaew Chanupatham Schools” under the Medical Science Department Project in 2003. In the second phase, 2004 – 2006, the Ministry of Public Health signed a memorandum of understanding with the Ministry of Education. At the time, Khamkhuenkaew district had expanded the “OR-YOR-NOI” program to all high schools in the district area including five schools. The last phase, the project was expanded to cover all schools in district area, 55 schools since 2007. The budgets have been supported by the Food and Drug Administration, Khamkhuenkaew district health office, Khamkhuenkaew hospital and Yasothorn Provincial Health Office.

The roles of “OR-YOR-NOI” students are emphasized on the consumer protection roles. Their roles include the monitoring and inspection of food, cosmetic and health products in their schools and communities where the schools are located. They also visit and do some survey in grocery stores, market places and drug stores. The educational role has also one of the important roles of “OR-YOR-NOI” They are

expected to share their knowledge with the community members as well as other school students.

“Ton Kla Ruksit Club” is one of the results from “OR-YOR-NOI” Project in Khamkhuenkaew Chanupatham School. They has been working on consumer protection in school since 2003 until now. The development of the school club has been started from FDA program and health promotion school. The target products in consumer protection included food safety at the early period, then followed by cosmetic safety that was integrated with food safety in middle period and now become focusing on FCDH program (F=food, C=cosmetic, D=drug and H =herbal product). Therefore, “OR-YOR-NOI” should be an effective model to assist health volunteer in community and help peoples in the community about drug use consumer protection and health promotion program.

In this study, it will be beneficial to learn how to empower OR-YOR-NOI students. It is important to know how they developed programs or projects in the school and community that they are living, and know what are the roles of OR-YOR-NOI students to promote rational drug use in community

**Research Question:**

1. What are the roles of “OR-YOR-NOI” focusing on managing an inappropriate drug use in community and school?
2. What are the consequences of “OR-YOR-NOI” roles on drug problems in community?

**Objectives:**

1. To study the role development of Students participating in OR-YOR-NOI project in promoting appropriate drug use in community
2. To evaluate the effects of OR-YOR-NOI’s project on students knowledge about drug use and availability of inappropriate drugs in community.

**Expected Benefits:**

1. The study will draw a lesson learned how the students in “OR-YOR-NOI Project” can promote the appropriate drug use in community.
2. The student in a network of consumer protection in the community focusing on reducing inappropriate drug use will be established.

**Operational Definitions of Terms:**

<b>Terms</b>	<b>Meanings</b>
<b>OR-YOR-NOI Students</b>	the students who are the members of “OR-YOR-NOI” club in each school
<b>Inappropriate drugs</b>	the list of the medications including all kinds of antibiotic drugs such as Pennicilin, Amoxycillin, Cotrimoxazole, Erythromycin, Chloramphenical, Tetracycline and NSAID including Diclofenac, Piroxicam, Ibuprofen and Aspirin
<b>Drug knowledge</b>	the people’s knowledge related to inappropriate drugs
<b>Experience/Attitude</b>	the experience and attitude of OR-YOR-NOI student in this program and roles to promote appropriate drug use in community
<b>Consequences</b>	includes two main outcomes. First is the availability of inappropriate drugs in all grocery stores in the study sites and the second is the people’s knowledge about inappropriate drug.

## Conceptual Framework:

This study included three main phases. The first phase was the preparing phase. This phase the researcher as a community hospital pharmacist prepared the high school students in OR-YOR-NOI Project in each school. The training program was set by the pharmacist. The content covered both the concept of “Created and Design a Model” and the knowledge about the drug problems. The model comprised five steps including analysis(A), design(D), development(D), implementation(I) and evaluation(E). The second phase aimed to develop the intervention by OR-YOR-NOI’s students. The intervention development followed the process of the Created and Design a Model or ADDIE. “Phee Son Nhung” activities was employed as a key method of learning in that high school students taught their younger students in primary school. The students in OR-YOR-NOI project will create their own roles to tackle with the drug problems in their family households and communities. The last phase will be the implementation of OR-YOR-NOI’s interventions in their family households, schools and communities. The consequences of the interventions were measured including inappropriate drug availability in the groceries, and the knowledge about drug of the OR-YOR-NOI’s students family members, and the experience and attitude of OR-YOR-NOI students by comparing the consequences before and after the interventions were implemented.

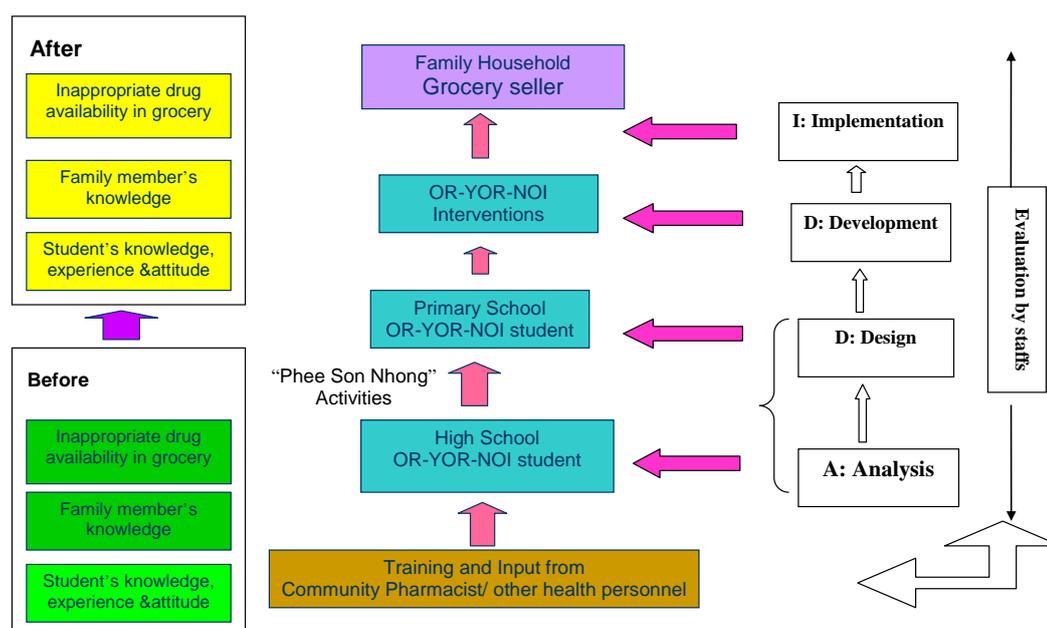


Figure 1 Conceptual framework of the study: OR-YOR-NOI model to promote appropriate drug use

## CHAPTER II

### Review Literature

This chapter consisted of three main parts. First part included pharmaceutical product problem in community. Second part was about the development and the success of the students' roles in OR-YOR-NOI Project or Junior FDA in solving the problems related to health products especially food and cosmetic. It is an initiative model for consumer protection in school and community. The third part focused on problem solving role development concept. Since OR-YOR-NOI themselves need more understanding to cope with their own community drug problems, the concept of problem solving will be communicated to OR-YOR-NOI students by the community pharmacist who is the researcher of this study.

#### **1. Pharmaceutical product problem in community.**

Un-safe drug, including Ya-chud, corticosteroids and several type of dangerous drugs have been found in community. Ya-chud is very dangerous and still be the important community drug problem. They have been distributed in all rural community of Thailand. People can buy freely form groceries, although they have known the side effects form Ya-chud. One of essential result got from "A community survey of musculoskeletal pain and management in Namphong District, Khon kaen Province that studied in 12 villages of Namphong District(6). The study samples included, 86 groceries as the drug distributors in communities, and 685 of over 15 years-old villagers. The results showed that there were Ya-chuds in eighteen groceries. Total number of Ya-chud found were fifty one items. Among the Ya-chud found, 4.7% had only corticosteroids, 44.2% had only NSAIDs and, 48.38% had both corticosteroids and NSAIDs. The corticosteroid that was found in ya-chud were dexamethasone range from one to three tablets in each set. Almost of the NSAIDs found were indomethacin and/or phenylbutazone. At least 33% of sampled villagers chose Ya-chud because of convenience and low price. Ninety five percents of the samples had already known the side effects of Ya-chuds from health workers and public advertising.

Not only Thai people take un-safe drugs but also take drugs more than needed. Anantachote, et al found that there were over drug use in Thai population. In the study define the term drug over use as the patients accumulated more than 365 tablets per years. The researcher found the most of drug over use are analgesic drug group, anti-hypertensive drug, gastric and bowel disease drugs, anti-diabetic drug, and anti-lipidemic drugs. It was calculated that 56.96 millions baths were waste form the over drug use of muscle and pain relief drug group in the study(7)

Moreover, the inappropriate use of antibiotics drug cause widespread drug resistance. Antibacterial resistance has become a major driver in the choice of therapy in the developed world when resistance to a particular agent appears in 10-20% of hospital isolates tested, clinicians often dismiss the agent from empiric therapy regimens. A survey by the World Health organization has found use (in man and animals) exerting a selective pressure favoring the emergence of resistant strains, and particularly misuse in sub-optimal therapy (e.g. inappropriate choice of drug through misdiagnosis of cause of infection, low dosage, insufficient length of treatment or non-compliance).(8)Drug problem survey in Thailand 2006 found the highest value of production and imported drug is antibiotic group, it's cost around more than 16,000 millions bath, or one-fourth of the total value of drugs(9). The incidence and patterns of and factors associated with inappropriate antibiotic use were studied in the tertiary care university hospitals in Thailand. The incidence of inappropriate antibiotic use was ranged from 24.8% - 91% (10).

In result of inappropriate and hazard drug available in community by drug monitoring and development drug system department, Chulalongkorn University in Khamkhuenkaew district, focusing on ban drug and inappropriate antibiotic drug use. The survey result in Amphoe Muang Yasothorn and Amphoe Khamkhuenkaew both areas are include drug stores in town, grocery store in village, and hospital in both amphoe has found inappropriate and antibiotic which not available in grocery more than 94% in 2 areas. Antibiotic drug are available in groceries village 33.15 % and villager have a least knowledge to use drug for safety more than 39.92%. Finally antibiotic drug and in appropriates drug items that found in all grocery store are distribute form drug store in the city and some seller's said "the distributor are direct sending to them in a villages".

The inappropriate drugs that founded in village of Khamkhuenkaew district are include antibiotic groups example Pennicilin G, Tetracyclin, Erythormycin, Cotrimoxasole, and NSAID drugs are include Diclofenac, Piroxicam, and Aspirin. The most of aspirin that available are powder dosage form, over an a half of antibiotic that found are Tetracycline. In Khamkhuenkaew district the study has survey 20 groceries that found all inappropriate drugs are available.

## **2. OR-YOR-NOI, Junior FDA: An initiative model for health consumer protection in school and community.**

OR-YOR-NOI has been initiated and become a model to cope with drug and health product problems in school and community. In 2002, OR-YOR-NOI Club has been introduced as a consumer protection intervention in schools and community by Thai Food and Drug Administration(11). In 2005, at least five schools in five provinces were including in the pilot project. Nowadays, the intervention has expanded to cover other secondary schools under the office of the Basic Education and some private schools throughout the country. 10,256 schools and over one millions students throughout country are registered to be OR-YOR-NOI student club(11). And most effective in coordinating network are 175 education areas office and 75 public health offices through a country have a good coordination between both together so have good connecting between schools to schools, schools to communities, throughout an OR-YOR-NOI activities in their schools and communities(12).

The standard characteristics of OR-YOR-NOI club in each school are required to have five criteria including having a formal group of students to launch a program in school, having more than thirty students and at least one student per room, having more than two teachers as advisors, having budget and resources support from the school directors, having continuous activities in consumer protection.(5)

The OR-YOR-NOI project aims to set up the student volunteer group in the schools focusing on food and health product safety which related the community and school contexts. OR-YOR-NOI student's roles include the monitoring of food that is distributed in the school, around community, and the food market nearby which could be contaminated by toxic substance such as borax, formalin, sodium hydrosulfate or

salicylic acid, etc. Moreover, they educate other students in their school and other primary schools in the area by using several type of media such as multimedia, schools radio, exhibition board, talking in a class room, school television, etc. OR-YOR-NOI also provide other campaigns to educate the community including walking campaigns, educating through the community.

OR-YOR-NOI can also build the cooperation between all stake holders in community who are involved in health product consumer protection. A good cooperation in the community between teachers, students, health volunteer, food sellers, local administrative organization, community hospitals, health districts, etc is set as the net work to tackle drug and health product problems in community. The crucial evidence represents the strong cooperation is the resource and budget supported by local administrative organization. The co-inspection activity for food safety has been conducted by community radio network.

Phee Sohn Nong Activities have been created through the learning process by OR-YOR-NOI project and are accepted as the effective way to achieve the project goal. The activities started from the core students in each schools who had the experiences in conducting the project, called “Phee, or elder brothers or sisters”, trained their younger brothers or sisters, called “Nong”. This is the way OR-YOR-NOI club has expanded their network, knowledge and skill to protect consumers. For example, they taught their younger students to monitor contaminated samples for food, cosmetic and drug safety. The example of success expanded to other schools and community is found in Koh Mahk schools, Pak Phra Yoon, Pattalung province.

The OR-YOR-NOI student club could take a role to reduce and promote the knowledge for cosmetic safety. In Khamkhuenkaew District, it was found that OR-YOR-NOI Club could take a role in promote cosmetic safety. Thai Food and Drug Administration Office had a cosmetic safety project in Khamkhuenkaew district area, the co-ordinating bodies are composed of not only the governmental local organization including local administrative office but also the people who live in the community. There are three main objectives in the project including reducing non safety cosmetic products, improving knowledge of peoples in community about non safety cosmetic product, and forbidding the selling of non safety cosmetic in the market and village. The result was found that OR-YOR-NOI student club in each

school was a key success factor of this project. They took an active role in promoting knowledge transfer that using “air war strategy” through the community radio and village broadcasting. The study had also found that the students’ knowledge about non safety cosmetic in the target area is more than non target area (73.95% and 26.64%). The groceries and stores in the market that sold non safety cosmetic products are decreased form 36.36% to zero after running the project continuously three months. The most interesting results found that most of the peoples in villages got the knowledge about non safety cosmetic product by OR-YOR-NOI student more than the other routes (63.00% more than 33% by public health staffs) and the peoples who live in community which include study areas are access to non safety cosmetic product knowledge promotion by OR-YOR-NOI has found that in internal study areas are higher more than not include study areas.( include study areas 63.00%, not include study areas 30% ).

The OR-YOR-NOI Project has been initially focused on food safety and food safety is still be main interest since then. In many schools that run the OR-YOR-NOI Project are successfully in food safety monitoring in their schools and communities such as Rachaborikanukorh Schools, Rachinee-bon School, Hor Wang School, Wat Yai Rohm Schools in Bangkok, etc. The activities that are effective in each school for food safety inspection include “OR-YOR-NOI meat ball spy” in Wat That Thong School, Bangkok, Thammasart Klong Lhuang Wittayakom Schools, Pathumthani. The project has successfully prohibited non safety food store around school. It was found that about 20 food stores that were not qualified reduced to only one store after and the implementation of the project. The students are aware to choose meat ball after run an OR-YOR-NOI Project in their schools. The other project created by the OR-YOR-NOI stents was “The reduction of green tea consumption” in Rachborika Nukorh Schools, Ratchaburi.

Moreover, the project also built up the concept of consumer right among the students and people in community. They have realized that they have their rights to protect themselves form non safety food product that sold in the store. Matthayom Koh Makh Schools, Pak Phra Yoon district, Pattalung is an example. The school has been success in carrying out the OR-YOR-NOI project for food safety with a good

coordination with their community. It was found that the project could change the consumer behavior to bought quality fish sauce, pickled vegetable, sweet shrimps, etc.

The outcomes of OR-YOR-NOI project are well recognized in Thai society. The project is well known among Thai students. The OR-YOR-NOI students gained both knowledge and skill in choosing food and other health products for safer and better consumption. The student's parents have better consumer behavior. In students' households, the behavior to choose raw material for cooking has been changed to safer eating. The situation of disease and illness that is caused by food and health products is better in schools. The students have viewed that experience from joining the OR-YOR-NOI probably will lead them to the medical or health science careers in the future. Finally, they state that they are proud to be a part of OR-YOR-NOI student club (13)

One of the OR-YOR-NOI projects evaluation confirmed that the objectives of the project were success. The result showed that the OR-YOR-NOI student group had better attitude, knowledge and skill about consumer right significantly more than the other general student group. However, it was also found that OR-YOR-NOI student volunteers' competency still were not high enough. It was suggested that responsible organizations should establish a program to enhance their competencies so that they would be able to run the food safety program in schools and communities more efficiently and in a sustainable manner in the future(14).

In addition, the knowledge of food and health products has been integrated in the teaching plan under the basic education office, Ministry of Education. Concept and technical knowledge related to health product consumer protection are added in a basic education curriculum. Learning substance are incorporated within four main teaching plans in the curriculum including the sciences studies, social studies, religious and cultural studies, health science and physical education studies, and occupation and technology studies. Learning substance are consisted of the consumer right, consumer protection issue, health product related information and consumer behavior development. Consumer protection issue including how to choose or buy food and health products, how to know the tactics of advertising and education laws, rules and regulations is also inserted. Health product information is also included in learning plan such as cosmetics, chemicals in food, drug and hazardous materials etc.

Detail of learning issues that are included in four groups of learning plan are as followed: (also see figure 1) (15).

1. Sciences studies

The contents cover the basic knowledge of chemicals such as nutrient, food additive, chemical testing, food safety such as contaminants and safety food containers.

2. Social studies and, religious studies, and cultural studies

The social studies as well as religious and cultural studies are the science of integration. The issues are typically integrated concept with laws and regulations such as consumer right act, food act, and drug act etc.

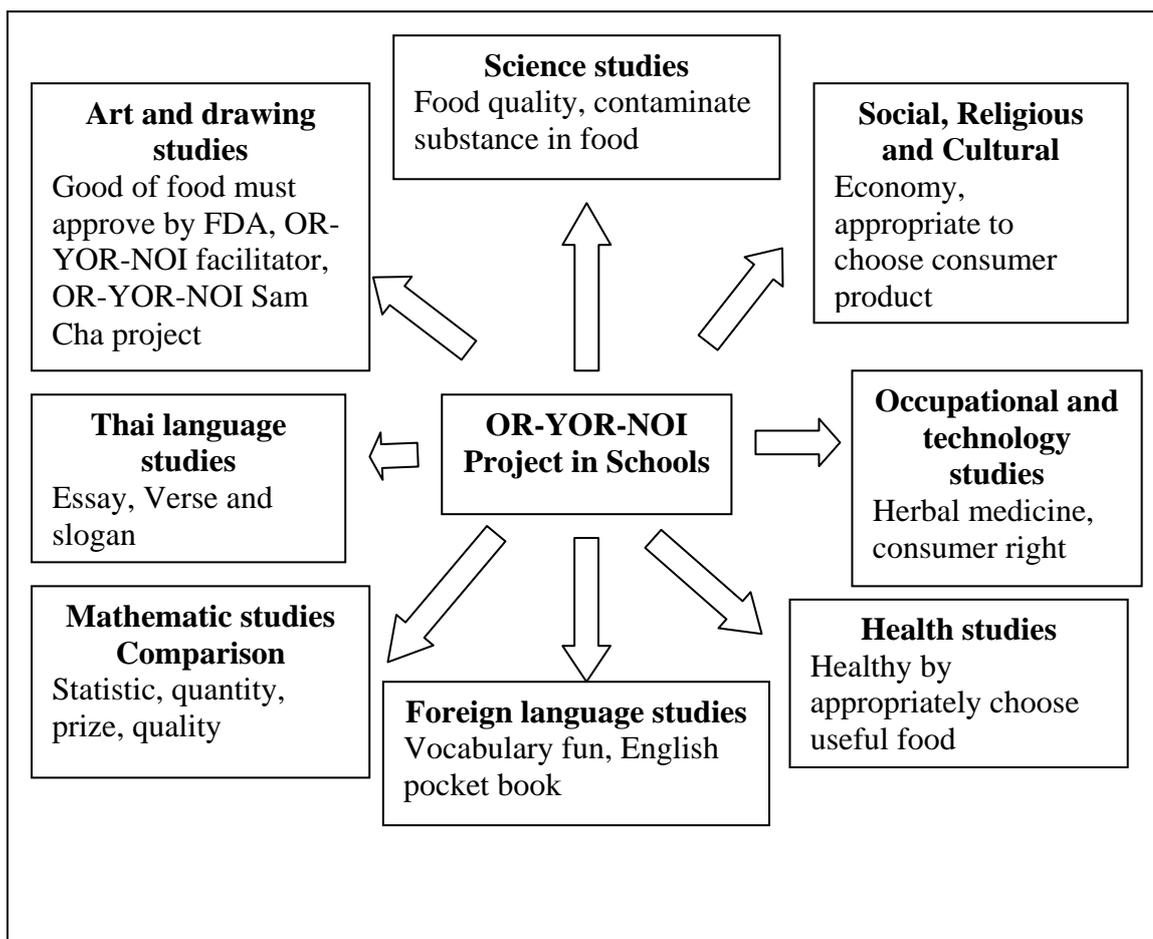
3. Health and physical education studies

The main course of health and physical education study is about drugs and life (teaching in 4 hours). The contents are the major drug used, drug for each disease and drug dosage and source to buy drugs. The contents also cover how to keep drug, how to check the quality of drug form physical appearance and expired date and how to manage in case of drug allergy.

4. Occupational and technology studies

The studies most led to strengthener of learner about human ability, occupation and careers, to work appropriate, created and develop a new products or methods. The student or learner could be learn for teamwork, ethics and regulation for food product line, how to production a safer product by the good manufacturing method or we call GMP in food line. So OR-YOR-NOI projected could learn about

issues such as conceptual thinking for food safer and other safety health product.



**Figure 2** Application & Integration of curriculum studies by OR-YOR-NOI(16)

“OR-YOR-NOI in Nakhonratchasima province is a successful case in implementing the project. The working groups including Nakhonratchasima Provincial health office, The Education Service Area Office, and Nakhonratchasima Local Authority approve the OR-YOR-NOI project. The project is composed of many activities that need to be coordinated and run the project together.

Some key success factors were learned from Nakhonratchasima project. Wallapha Kongchanmitrkul; Nakhonratchasima Provincial health Office said that “If we look backward into the past since the OR-YOR-NOI project established until the present, we just know the ability of OR-YOR-NOI student and roles of OR-YOR-NOI club could improve the health situation in their school and communities around. Although success come mostly from the supported by the health staff and teachers,

but student role and their ability is key success. Since OR-YOR-NOI activities are voluntary jobs, sometimes they worked overtime in school or in community. Moreover, some activities the student could be act by themselves, the student could be develop their concept thinking, creativity and also are able to work with other persons, other school and society. Finally, the most advantage of OR-YOR-NOI project is a good coordinating between three parts of community stakeholders including schools, local authority, and public health staff.

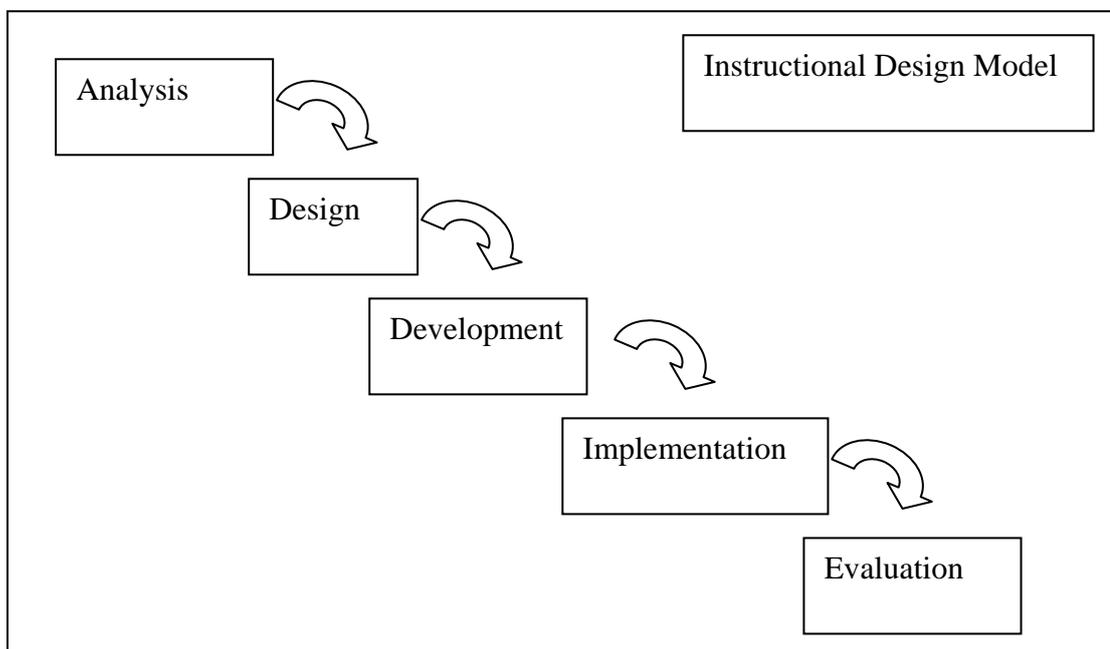
The examples of effective interventions promote rational drug use also mentioned. One of success projects that is related with drug use in community is found in Khamphaengpet Province, at Khanuworaluksaburi District. The project aimed to learn “How to decrease analgesic drug use in community for health community”. The main activities started from the selection of consumer leader to disseminate knowledge about drug use to people and grocery sellers in their community. The other example was found in the activities of “Friend help friends clubs” at Phrae province. The project used peer group to generate the awareness and knowledge of grocery seller in Tambol Pa maet and Tambol Thung Hong. In addition, the community radio broadcast, and village tower broadcast are available channels to improve knowledge in their community that lead to healthy consumer behavior.

### **3. Problem solving role development concept**

To strengthen the students in OR-YOR-NOI project to be capable for creating their own roles in drug problem solving, the concept of creating and designing a model will be an important input for them. In problem solving role development step, many models have been proposed. For examples, Dick and Cary Model(17), Kirkpatrick’s model(18), Waterfall model(19),Spiral model(20) and Instructional Systems Design (ISD)(21), one of the most appropriate model to applied for designing the activities and disseminating knowledge in community is ISD, while the other models are preferred to use in creating for business, manufacturing and software design. Instructional design model is composed of five simple steps so it can be easily to learn and follow the steps, so it will be applicable to be an input for OR-YOR-NOI students.

ISD also tells how to organize appropriate pedagogical scenario to achieve instructional goal. In more abstract term an instructional design model is kind of abstract design rule for a given instructional design approach or given pedagogic strategy. However, Driscoll and Carliner mentioned an important issue was that “Design is more than a process; that process, and resulting products, it also represent a framework of thinking”(22) Instructional design model is a guideline or sets of strategy on which the approaches for teaching by instructor are based. ISD aims to increase and/or enhance the possibility of learning and also to encourage the engagement of learner so that they learn faster and gain deeper levels of understanding.

The ISD perhaps the most common model used for creating instructional materials is the ADDIE Process. Most of the current instructional design models are variations of the ADDIE process (23) or ADDIE (Analysis, Design, Development, Implement, Evaluate) (figure 2). ISD models have a board scope and typically divide the instruction design process into five phases (24):



**Figure 3:** Instructional Design Model

1. Analysis phase: This phase are use problem solving technique that have 2 main method such as brain storming and root cause analysis. The first step in brain storming method is set a problem, then to create a background memo to

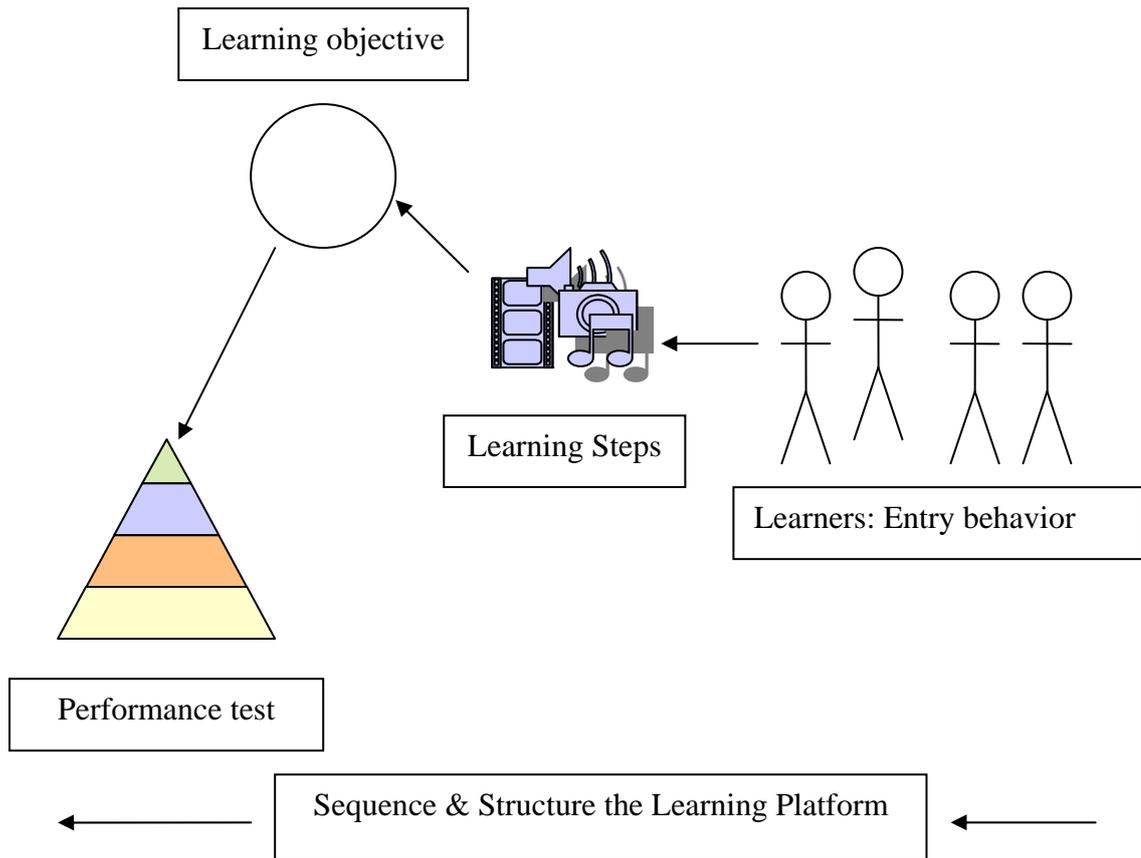
invitation and information to participant. After we select participants the student should create a list of lead questions. The root cause analysis are applied in this phase too. The practice of RCA is predicated on the belief that problems are best solved by attempting to correct or eliminate root causes, as opposed to merely addressing the immediately obvious symptoms. The analysis phase is the building block of a training program. The basis for who must be trained, what must be trained, when training will occur, and where the training will take place are accomplished in this phase. The product of this phase is foundation for all subsequent development activities.

The analysis phase is often called a Front-End Analysis. That is, although it might be performed analysis throughout the ISD process, such as in the design and development phase, this “front end” of the ISD process is where the main problem identification is performed.

2. Design in ISD phase: This phase insures the systematic development of the training program. This process is driven by the product of analysis phase and ends in a model or blueprint of a training process for future development. This model should contain five key outputs including entry behaviors, learning steps (performance steps), learning objectives, performance test, structure and sequence program online. (figure 4)

The entry behaviors describe what a learner must know before entering into the training program. Just as a collage requires certain standard met in order to enroll, a learning process should require a base level of knowledge, skills, and attitudes (KSA). The learning objectives tell what task of learners will be able to perform after the training, the leaning steps tell how to perform the task, while the performance test tells how well the task must be met.

Finally, the learning objectives are sequenced in orderly fashion to provide the best opportunity for learning occur.



**Figure 4:** Systematic development of a training program

### 3. Developing of Instructional Design phase:

This phase elaborates and builds on the Learning Objectives and Learning Steps that were produced in design phase. It basically sums up all previous learning gained in prior two phases (Analysis and Design) into a complete learning platform. The end results in the instructional courseware—the media and its content, such as software, lesson outlines, or video, that contains the instructional content and activities of the lesson platform.

It is noted that in some Instructional Design circles, development is lumped together with design phase. This is normally truer in smaller organizations where the instructional designer is responsible for creating the entries learning platform. In some larger organizations, instructional designers create the learning “blueprint” (design) while other personnel,

such as artists, technical writer, programmers, etc. build the various activities (development) as dictated by the blueprint.

#### 4. Implement or Delivering the Learning Platform in Instructional Design phase:

This phase is quite a most important phase. The way to effectively implement the course depend very much on the implementers. As a recent Harvard Business School article (2009)(25) note on the learning profession, *“Learning is more strongly influenced by individual teachers, for example, than any other factor, including class size and quality of the facilities. In various studies, the truly great teachers do things like giving good, individualized feedback while remaining sensitive and responding to interactions going on around them that might indicate needs of other students”*.

Implementation or Delivery phase as just “starting the training”, however it’s does start with creating the Training Management Plan (TPM), or as it is sometime called, the Course Management Plan (CPM), that outlines the training plan.

#### 5. Evaluation in Instructional Design phase:

Evaluation is the systematic determination of merit, worth, and significance of learning or training process by using criteria against a set of standards. The evaluation phase is ongoing throughout the ISD process. The primary purpose is to ensure that started goal of learning process will actually meet a required business need. Thus, it is performed during the first four phases of the ISD process. The main questions to be evaluated in each step include:

- Analysis phase: Is the performance problem? How will implementing a learning platform positively impact a business need or goal? What must the learners be able to in order to ensure the required change in performance?

- Design phase: What must be learned by the learner that will enable them to fulfill the required business need or goal
- Development phase: What activities will best bring about the required performance
- Implementation phase: Have the learners now become performers (have the skill and knowledge to perform the required tasks)?

Evaluations help to measure the gap between what is the teacher teach and what are the learners learn by determining the value and effectiveness of a learning program. It uses assessment and validation tools to provide data for the evaluation. Assessment is the measurement of the practical results of the training in the work environment; while validation determines if the objectives of the training goal were met.

## **CHAPTER III**

### **Methodology**

#### **Study Design:**

The study is quasi experimental design.

#### **Population:**

Khamkhuenkaew district was the population in the study. Community, schools and people in community were the target population.

#### **Samples and sampling methods:**

The study samples include:

1. Target areas: the target villages were purposively sampled from total fifteen villages according to the level of high drug problem in the community, the low level of people knowledge and still having an active OR-YOR-NOI student club in school more than five years. From the above selection criteria as well as the former baseline information of the community, therefore, Lumpuk Municipality (Moo 1, 2), Ban Lhao Fhai (Moo 9,15), Ban Khoak Klang (Moo 5,14) were included.

2. Target students: target schools were purposively selected from the schools in the selected villages. The selected schools were required to have all criteria of the standard characteristics of OR-YOR-NOI club set by FDA. There were three primary schools and one high school that were included. OR-YOR-NOI students in each selected school were the responsible students in the target schools. The high school students were the primary target in preparation phase that were trained by the pharmacist, and the elder trained the younger students in primary school as in "Phee Son Nong Activities". The OR-YOR-NOI students in four schools who voluntary to join were included. Sixty high school students in Khamkhuenkaew Chanupathum school, and thirty students in each of the primary schools from Lao Fhai, Khoak klang, and Kinderkaten Lumpuk schools were the sampled students.

3. Target groceries: All groceries in the targeted villages were included in order to study the availability of inappropriate drugs.

4. Target community members: One family member per one targeted student was selected. The family members who participated in the study had to be over 15 years old. The total number of sampled community members was showed in Table 1.

**Table 1** The number of Family members and student required in the study

Target area	Family members size	students size
Lumpuk municipality		
Khamkhuenkaew Chanupatham	60	60
Lumpuk kindergarten school	30	30
Ban Lhao Fhai	30	30
Ban Khaok Klang	30	30
Total	150	150

### Operation Plan:

1. Preparing phase: The pharmacists (researcher) set up the training program for high school students that included the contents about the situation of drug problems in community, concept and methods used in developing the intervention based on ISD model, knowledge about the inappropriate drugs found in the community.
2. Creating and designing a model phase

The study applied the concept of ISD by followed ADDIE steps to help the OR-YOR-NOI students in creating and designing their interventions. In table 2 presents the details of each step.

**Table 2** The operation plan of the study

Creating and designing	Expected outcomes	Process	Target groups
A=Analysis	Drug use in community problem solving	<ul style="list-style-type: none"> <li>- Brain storming and Root Cause Analysis learning technique and application</li> <li>- Analyzing the drug problems based on baseline information of each village</li> <li>- Observing the analysis learning process of the students</li> </ul>	High school (Observer) Primary school (Participants)

D=Design	Training program development	- The activities were specifically designed related to the results from analysis phase by the cooperation both high and primary schools.	Trainer = OR-YOR-NOI students, Learners = peoples and seller in village
D = Development	The lesson platform	- Developing the intervention - Record and collect the product that student created.	OR-YOR-NOI students

### 3. Implementation and evaluation phase

Creation and design	Expected outcomes	Observation and monitoring
I= Implementation	The student could implement all activities according to the training plan	- Implementing the intervention plan
E = Evaluation	The students can achieve the objectives of ISD process	- <u>in the analysis phase</u> : Does the performance have any problem? What are the factors required to change in drug use knowledge of the people? - <u>in the design phase</u> : What must be learned by the learner that could be applied to solve the drug use problem - <u>in the development phase</u> : What activities will be the best to bring about the reduction in drug use problem in village - <u>in the implementation phase</u> : How to implement a learning platform positively affect the drug use in village? Have the impacts on the learner behaviors and the availability of inappropriate drugs in groceries?

#### Study Instruments:

1. OR-YOR-NOI student roles data collection form (including 5 steps)
2. Family member drug use knowledge questionnaire
3. Grocery data collecting form (availability, seller's knowledge, and route of drug distribution)

4. OR-YOR-NOI student/other student experience and attitude to a role of OR-YOR-NOI Form (Depth interview)

**Data Collection:**

1. The situation of inappropriate drug use in community:

1.1 Grocery data collecting form was used to collect the drugs that were available in community from all grocery stores in each village. The data was collected by interviewing the grocery's owners as well as by observing the drug products in each grocery store.

1.2 Drug use knowledge questionnaire was used to ask for the level of the sampled family members' knowledge. In-depth interviewing was conducted to collect more in-depth information.

2. The interventions implemented to improve the appropriate drug use in community: OR-YOR-NOI student roles data collection form was applied as a guide to observe and collect the data about the interventions developed by the students in OR-YOR-NOI project
3. OR-YOR-NOI student experience and attitude that focused on inappropriate drug use were collected by group discussion and individual interview.

**Data Analysis:**

The study employed the descriptive data analysis. The situation of inappropriate drug use in community, level of knowledge about drug safety use in community, the development process of the intervention in each schools, and the characteristic of the activities implemented in the community, other demographic data of OR-YOR-NOI students and community members were described.

The availability of inappropriate drugs in groceries, the knowledge of family's members, the experience and attitude among high school OR-YOR-NOI students were collected and compared between before and after implementing the intervention.

**Study Planning : March, 2010 – May, 2011****Time Table of study planning**

<b>Plan</b>	March 2010	April 2010	May 2010	June – Dec 2010	Jan 2011	Feb 2011	March 2011	April 2011	May 2011
Literature review	←→								
Defending Proposal	←→			→					
preparing and training				←→			→		
Ethic committee					←→				
Study by intervention					←→		→		
Situation and Knowledge Pre Test					←→				
Situation and Knowledge Post Test								←→	
Data collection and analysis					←→				→

## **CHAPTER IV**

### **RESULTS**

Results of the study were presented in three parts as follows;

- I. Characteristic of the sample. The samples included 3 groups as follows:
  - 1.1 Characteristic of OR-YOR-NOI students
  - 1.2 Characteristic of family members of the OR-YOR-NOI students
  - 1.3 Characteristic of the groceries in studied community.
- II. Characteristics of the intervention developed by OR-YOR-NOI students.
- III. Effect of the intervention developed by OR-YOR-NOI student on promoting an appropriate drug use in community. Three outputs were examined by comparing the situations before and after implementing the interventions to show the effects of the interventions including:
  - 3.1 The availability of inappropriate drugs in the groceries.
  - 3.2 The specific drug knowledge of family's members of OR-YOR-NOI students.
  - 3.3 The experience and attitude of OR-YOR-NOI students who were involved in the study.

#### **I. Characteristic of the sample**

##### **1.1 Characteristic of OR-YOR-NOI students**

The OR-YOR-NOI students who were voluntary to participate have been purposively selected. OR-YOR-NOI volunteer in each school consist of 60 students from Khamkhuenkaew Chanupathum School and 30 students from Lao Fhai School, 30 students from KhoakKlang School and 30 students from Kinderkaten Lumpuk schools respectively. The number of core OR-YOR-NOI students in each club are based on

the OR-YOR-NOI practice guide line of Thai Food and Drug Administration. From those numbers, it can define into 37 boys and 113 girls. 90 of them are between 11-13, 30 are between 13-15 year old and the rest are above 15 years old. Most students lived in the areas of studies, only few of them were from the different areas. The number of OR-YOR-NOI student shows in the Table 3.

**Table 3** The characteristic of OR-YOR-NOI students in each school

Target area	Total	Gender		Age (years)		
		male	female	11 - 13	13 – 15	>15
Khamkhuenkaew chanupatham	60	12	48	-	30	30
AnubarnLumpuk	30	12	18	30	-	-
Ban LhaoFhai	30	7	23	30	-	-
Ban Khaok Klang	30	6	24	30	-	-
Total	150	37	113	90	30	30

### 1.2 Characteristic of family members of the OR-YOR-NOI students

150 family members who are living with OR-YOR-NOI students family had been selected as one group of the studied samples to check whether their specific drug knowledge was improved after implementing the interventions by OR-YOR-NOI students. They were from Lumpuk Municipality (Moo 1, 2), Ban LhaoFhai (Moo 9,15), Ban KhoakKlang(Moo 5,14).These areas are located in the region of Kumkuankaew district. The family members were 68 men (45.33%) and 82 (55.67%) women. 57 people were between the age of 35-45, 42 of them are between 46-55 and the rest are between 56-65year-old. Most of them were respectively farmers, civil servants and community leaders. Concerning of drug use knowledge of the family member of OR-YOR-NOI students, the questionnaire was used to ask by in-depth to find out the knowledge level of the members. The characteristics of family member's of the OR-YOR-NOI students can be seen in Table 4.

**Table 4** The characteristics of family member's of the OR-YOR-NOI students

Target area	Total	Gender		Age (years)				
		male	female	<35	35-45	45-55	55-65	>65
Lumpuk municipality area	90	44	46	11	43	16	16	4
Ban LhaoFhai	30	11	19	3	9	15	3	-
Ban KhaokKlang	30	13	17	2	5	11	8	4
Total	150	68	82	16	57	42	27	8

### 1.3 Characteristic of the groceries in community

Every grocery in the selected villages was included in order to study the availability of the inappropriate drugs. There were 21 owners who are men and 29 were women. Mostly the owners graduated below bachelor degree. Most owners were between the ages of 35-45 (32 people). The characteristics of groceries' owners in three communities were shown in Table 5.

**Table 5:** The characteristics of groceries' owners in the community.

Target area	Number of the groceries	Gender of grocery seller		Age of grocery seller (year)		
		male	female	<35	35-45	>45
Lumpuk municipality	31	11	20	3	26	2
Ban LhaoFhai	12	8	4	-	1	11
Ban KhaokKlang	7	2	5	-	5	2
Total	50	21	29	3	32	15

Grocery data collection form was developed and applied to collect inappropriate drug availability in all groceries and to check the sellers' knowledge about the drug in the studied list. There were 10 items of inappropriate drug list including three of analgesic and non-steroidal anti-inflammatory including Aspirin (powder), Diclofenac, Piroxicam, Ibuprofen, and six items of antibiotics including Tetracyclin, Penicillin 400000 IU., Erythromycin, Chloramphenical, Cotrimoxazole, and Amoxycillin. These all drugs are illegal to sell in the groceries. The data was collected by interviewing the grocery's owners as well as observing the drugs found in each grocery store. The data collection was done by OR-YOR-NOI students in each village and supported by the health volunteers and some health staffs in community.

## **II. Characteristics of the intervention developed by OR-YOR-NOI students.**

The ISD model was applied as the learning and developing tools for the high school and primary students to create the interventions to improve the situations of inappropriate drug use in community. ISD model applied in this study was divide into 5 phases as Analysis, Design, Development, Implement and Evaluation. Before the analyzing phase, preparing phase was employed to improve the understanding of high school OR-YOR-NOI students through the concept of ISD or ADDIE. The researcher and other health staff provided the training course and set a platform of learning to the students. The high school OR-YOR-NOI students learned and applied the concept of ISD model to design and develop a program or activities to launch in primary schools. High school students used “Phee Son Nong” activities as the technique to improve knowledge and skill about in-appropriated drug use among primary school students. High school students applied the ISD concept only analysis and design since the other steps were too complicated for young students. Furthermore, in the evaluation step, the researcher himself evaluated all of phase in ISD model instead of high school OR-YOR-NOI student.

The interventions were developed by the OR-YOR-NOI students in each school. The development process included three main phases. The details was elaborated bellowed.

### **2.1 Preparing phase:**

To prepare the high school OR-YOR-NOI students to learn and aware about the drug problems in community, the pharmacists (researcher) set up a training program for them by introducing information about the situation of drug problems in community, as well as adding more technical knowledge about the inappropriate drugs found in the community. The contents in the training course for the OR-YOR-NOI high school students are shown in table 6. The trainers were the researcher and the other health staff from the community hospital such as nurse practitioners and doctors.

**Table 6:** The contents of the training course for OR-YOR-NOI students in high school.

Key contents	Techniques	Time
Root Cause Analysis technique	- Fish bone technique - Brain storming technique - How to analyzing to finding the root cause?	1 hour
Situation and SWOT technique for Student	SWOT technique application use in student level	1 hour
The knowledge about inappropriate drugs that found in community	- What is drug? - Common household drug in community - Knowledge of 10 inappropriate drugs which found in community - The disease of DM, HT and common diseases that found in community?	4 hours
Risk of drug: ADR and side effect that could be found in drug use	Adverse drug reactions of some drugs that could be found in community drug use	1 hour
ADDIE theory concept	The concept and ADDIE theory	1 hour

## 2.2 Analysis phase

After attending in the training program, the researcher provided the opportunity for all 60 OR-YOR-NOI high school students to learn and share their experiences about drug use in community and in their families. The researcher and the other health staffs were the facilitators to help the students to improve and develop their skills in analysis phase of ISD. This step the information and the examples of the inappropriate drugs preparations and pictures available in community were showing. After discussing, they summarized the aims of the program that were mainly focused on decreasing the inappropriate drugs distribution in the groceries as well as improving the knowledge of drug safety, understanding the label and using drug properly.

### 2.3 Designing phase.

The high school OR-YOR-NOI clarified the contents and designed the activities by using “Phee Son Nong”(Senior teach junior) model. The high school student had created and planned the program to launch for preparing the primary school students as in 5 steps as follows:

1. The high school OR-YOR-NOI was divided into a group of 20 students to take a responsibility on training the primary school students in the other three target schools.
2. The high school OR-YOR-NOI students developed “Phee Son Nong” activities in each school by consulting with their teachers and the researcher.
3. The high school OR-YOR-NOI students prepared the activities, tools and learning media to train the primary students.
4. The high school OR-YOR-NOI students conducted the training program for the primary school. The training was done in two forms, giving lectures with discussion in the morning and had the workshop to develop the innovation tools in the afternoon session as shown in Table 7.

**Table 7:** The contents of the training course for OR-YOR-NOI students in primary school by high school OR-YOR-NOI students

Key contents	Techniques	Time
Root Cause Analysis technique	- Fish bone technique - Brain storming technique - How to analyzing to finding the root cause?	1 hour
The knowledge about inappropriate drugs that found in community	- What is drug? - Common household drug in community - Knowledge of 10 inappropriate drugs which found in community	4 hours
Risk of drug: ADR and side effect that could be found in drug use	Adverse drug reactions of some drugs that could be found in community drug use	1 hour

The high school students trained the primary school students by following the structures and contents that they designed with the researcher in the step four. The primary school students also had a chance to brainstorm and analyze the drug use problems found in their own communities as well as to practice how to use the test kits, food and cosmetic safety, how to read the label, how to

develop the innovative learning tools and learn how to participate in surveying of inappropriate drug in the groceries together with the primary student and the health staffs.

5. The high school OR-YOR-NOI students invited the researcher to summarize the training and remind the trainee about the importance of drug usage problems in their families and communities. The summary talk was aimed to encourage the primary students to work with the high school students and the health volunteers.

#### **2.4 Development phase**

To serve the objectives of the interventions to promote the appropriate drug use in community, several innovations, activities and programs which both high school and primary schools students had created together including:

- a. “Walking campaign” was a program that the primary school students, health volunteer and public health staffs had a co-activity. They walked around the Khamkhuenkaew Chanupathum school in municipality area to bring the awareness to the villagers.
- b. “Morning school announcement” had been set in all the target schools, but some differences in frequency. For example, Khamkhuenkaew Chanupathum school had set this activity once a week, while more than three days a week in the other primary schools, except Khokklang Primary School had announced in every morning.
- c. “Lunch break announcement” had just set only in Khamkhuenkaew Chanupathum school for 30 minutes every Thursday. It was related to the lesson hours of OR-YOR-NOI’s club. The announcement provided the detail about safety drug use concept, how to read a drug or health products label, and consumer rights.
- d. “Grocery survey for in-appropriated health product” was mainly focused on drugs and cosmetic. This activity primarily started with the collaboration of the community’s leaders who had already been communicated by high school

students and the public health staffs. The health volunteers participated in observing, facilitating and especially helping the primary students in dealing with problems during the survey.

e. “Brochures about easy drug information for household ” were developed. Every school had the same set of content in their brochures. The contents aimed to improve the knowledge about drug use in their households and how to keep a household drug. Some information had been supported by the health staffs as well as data resources and techniques in order to making an interested brochure. The format was developed based on the interests and requirements of the primary school such as cartoon book.

f. “Community radio announcement” was launched by the students with their community leader support in all village.

g. “Six-pages novel” was another tool developed by the high school students to teach the primary students about drug information and drug safety. This activity was launched in all schools and it was a very interesting media for many primary students. Additionally, they had learned “How to create the six-pages novel” from the high school students.

h. “Good faith diary” was another tool for moving the students forward on the good thing. OR-YOR-NOI students in high school had to share the experiences about their club with other schools and kept them in their diaries to maintain their motivation on doing good activities. However, it was limited for some groups of core students whereas in primary school the teacher set a program and integrated with learning curriculum of health lesson, so all primary school students have a diary especially in those studied student.

i. “Trash bank program” Trash Bank Program is one of the activities which helps supporting trash separation managed by students. The program is held in school in which the youth is instructed to accurately split waste according to its classification and indoctrinated them a good sense of preserving the environment in school and community.

It is a method to decrease amount of garbage and provide students the accurate knowledge in splitting waste. Profits from the bank will be spent on

establishing education fund. In addition, knowledge learnt from this activity would be intergraded to build the garbage administration pattern which further continues by the youth.

A principle of trash bank is that students recruit to the program and deposit their waste with the bank where the officers separate, weigh the debits, calculate money, and record the garbage banking history in a passbook. The price rate is set by school together with a junk shop. The activity's income is the difference between the price determined by school's committees and the junk shop's selling price. The money would be used in paying the program's advertisement and communication expense. These profits would be used as working capital and education fund. Instruments used in this program are following:

- Scale
- Trash storage room
- Passbook and account documents

Students would be divided to work in different fields such as:

- Bank manager: responsible for general administration of the bank
- Secretary: record details about members including names, surnames, member numbers, debris classification and the quantity of recyclable trash.
- Trash separator: split, weigh, and store the garbage in the storage room
- Cashier: make a comparison between waste and fixed price rate, calculate money from the deposited waste, and responsible for the trash deposit and withdrawal.

The procedure may contain advertisement, opening trash bank in location provided by school and evaluating the students and supervisors' performance.

## **2.5 Implementation phase.**

2.5.1 Implementing intervention by OR- YOR-NOI students to their family members. The tools to promote the readability of drug label, safety drug usage, flyers and record of drug use warning in elderly people were introduced to all OR-YOR-NOI students' family members. OR-YOR-NOI students together with their family members also kept the record on the available drugs in their family. There was the

interview about drug usage knowledge among their family members. This concerned the understanding of basic drug usage and reminded them on safety drug usage.

2.5.2 Implementing intervention by OR-YOR-NOI students to the groceries' owners. The OR-YOR-NOI students conducted the survey on the inappropriate drugs in the community groceries based on the list of the inappropriate drugs. Not only surveying the inappropriate drugs in the stores, the students also distributed the flyers about the restricted drugs and safety drug use. They also handed out the list of household medicines which had been supported by Khamkhuenkaew Community Hospital.

During study period all programs could be launched and implemented in all schools and groceries in the village. The students had launched some of the plans by themselves, only some knowledge were supported by the health staffs or researchers in the grocery and household survey.

## **2.6 Evaluation phase**

Evaluation was the last step in ADDIE model. The evaluation was performed in all steps of the intervention development process. In this phase, the researcher acted as the observer and participant during applying ISD model to the high school students and primary school students. The researcher used the questionnaire to collect data about knowledge, experience and attitude of the OR-YOR-NOI students, their family members and grocery sellers.

### 2.6.1 The evaluation in preparing phase and Analysis phase:

2.6.1.1 Preparing phase: training from pharmacist to high school OR-YOR-NOI students

The evaluation results found that the students had better knowledge and understanding on how to use drug according to the contents provided. They had more analytical skills and could apply the brainstorming technique and root course analysis rather well. It was found that the percentage of the students who passed the assessment increased from 35.33% (53 from 150 students) to 82.00% (123 from 150

students). The average score of student knowledge was significantly increased from 9.91 to 13.06 (p-value = 0.01)

2.6.1.2 “Phee Son Nong”(Senior teach junior) model: training from high school to primary OR-YOR-NOI students.

Both, high school and primary school have a good relationship. The primary students seemed to be more interested in learning together with the high school students. In terms of OR-YOR-NOI’s roles, the primary students understand the roles better after learning from the senior. They can use the food and cosmetic test kits and know how to read drug label properly. Furthermore, they can develop the six-pages novels and keep record of the “trash bank program” and “good faith diary”. This was useful for them in order to bring the knowledge of drug usage to the family and be aware of the use of drugs in elderly people. At this point, there are 75% of the primary students passed the assessment of the use of appropriate drug.

2.6.1.3 The intervention from OR-YOR-NOI students to the villagers or family members

The students in high school and primary schools used the “good faith diary” to communicate with their families. They also used the flyers related to drug’s label and drug information that had been supported by Khamkhuenkaew hospital. The students also reviewed the drug use in their families especially among the members who are the patients and regularly takes the drugs from the hospital. Apart from that, the students tended to have a better relationship with their families. They were able to take care of the elderly in their families and help them arrange the right drugs for them.

2.6.1.4 The intervention from OR-YOR-NOI students to the groceries’ owners

The OR-YOR-NOI students had better skills in surveying the drugs in the groceries. They could precisely identify different types of foods, drugs and other nutritional products. They could identify the differences between the basic household medicine and the dangerous drugs by reading the label, as well as for the other products like cosmetic. During the survey, the students also had a good relationship with the groceries and were confident to present the information to the sellers. There

were only few cases that the health volunteers had to assist on some complicated issues.

The performance level of high school and primary school students were different in term of their leading and working skills. Meanwhile, the abilities on health situation analysis and use of test kit in food and cosmetic were similar, as well as their interest and intention. The OR-YOR-NOI students in high school have better performance in communication and public speaking. However, one of OR-YOR-NOI students in primary school also had a high performance as same as high school students. Moreover some of them also have a special skill such as singing “Lookthung, Mholam (Esarn Indigenous song) used as one of communication tools.

Students were interested in a concept of brainstorming technique and could define root causes. They learned how to solve a problem by using the root cause analysis based on asking question “why and why” technique. Some students had direct experience about drug use problems in their households and some chronic disease patients in their communities, and others had done a project with “DM and Hypertension care project in OR-YOR NOI club”

The student’s groups could brainstorm well while the staffs only had to add some more relevant information on diseases and drugs. The students understood well about drugs use and the precaution that “safety drug could be hazardous too”. From the observation of the researchers, I found that high school students had more attention than primary school students when they launched a program in primary school. Moreover, high school student could integrate and apply the two learning techniques very well when they trained the primary school students.

#### 2.6.2 Evaluation in Design phase:

The relationship between high school and primary school students encouraged them to enjoy working together. Thus, we found that all programs initiated in high school, OR-YOR-NOI primary school students could be simply implemented and facilitated in primary school.

The “Good faith Diary” was applicable to all primary schools that wanted to develop skill on reading the label and learn how to use drugs properly and safely. The students were able to bring the right information to the groceries by

collaborating with the health volunteers and health staffs in the communities. However, some communities the students could do it by themselves if there was good relationship of people in the communities.

The “Six pages novel innovation” was very attractive for primary school students which were observed when high school students launched this program in the primary schools. There were many questions about the novel and drugs usage during the program. Moreover, it was interesting that the art subject and health curriculum could be integrated this innovation and apply to all students.

The “Community radio announcement” was carried out by the support from community’s leader and the information support from health staff and pharmacist. Here it was found that the students in high school were able to provide and seek for the information by themselves.

#### 2.6.3 Evaluation in Development phase:

In the groceries, the more frequency of the announcement and the better support of the community’s leader as well as health volunteers could help to reduce the inappropriate drugs and other health products distribution.

#### 2.6.4 Evaluation in Implementation phase:

All developed activities and the contents about drug usage could apply in all schools that had similar program via the OR-YOR-NOI. The designing of learning procedures and learning aids could be adapted to the present circumstance of the community. However, it could be done differently depends on the objectives and activities. The OR-YOR-NOI student played a key role in improving knowledge of drug use in the community especially in their family. An impact of OR-YOR-NOI student program on reducing the inappropriate drugs in groceries is less than changing of people’s knowledge

### **III. Effect of the intervention developed by OR-YOR-NOI student on promoting an appropriate drug use in community**

3.1 The situation of inappropriate drugs which was available in the studied community areas was reported in Table 8. Health volunteers and the

researcher collected data by using survey questionnaire in all groceries. It was found that the percentage of the grocery that found inappropriate drug available in the list before launching the interventions was 34 stores from 50 stores (75.42%) and decreased to 28 stores after implementing the interventions (54.50%). Furthermore the average of available inappropriate drug items per store decreased from 8.25 to 6.75 items per store. The most inappropriate drugs items that still found in store, even though the program was launched, were Penicillin, Aspirin 60 mg powder and Tetracycline capsule. When comparing the survey results between pre and post intervention in their community, the availability of inappropriate drugs found was shown in Table 9

**Table 8:** The availability of inappropriate drugs in groceries which was compared between before and after implementing the intervention in total 50 groceries

<b>Data</b>	<b>Before</b>	<b>After</b>
1. Number of grocery having inappropriate drugs	34	28
2. Percentage of grocery that found in-appropriated drug available	75.42	54.50
3. Average number of inappropriate drug found per grocery	8.25	6.75
Minimum	3	1
Maximum	10	9

**Table 9:** The inappropriate drug items founded in groceries store in community before and after interventions

<b>Inappropriate drug items found</b>	<b>Number of groceries that sold inappropriate drugs before intervention</b>				<b>Number of groceries that sold inappropriate drugs after intervention</b>			
	Lum puk	Lao Fhai	Khok klang	Total	Lum puk	Lao Fhai	Khok klang	Total
Aspirin powder	16	5	1	<b>22</b>	16	4	0	<b>20</b>
Diclofenac	7	6	2	<b>15</b>	7	6	0	<b>13</b>

Piroxicam	2	6	0	<b>8</b>	0	1	0	<b>1</b>
Ibuprofen	3	3	0	<b>6</b>	1	1	0	<b>2</b>
Tetracyclin	12	12	4	<b>28</b>	8	9	2	<b>19</b>
Penicillin	6	9	2	<b>17</b>	3	8	2	<b>14</b>
Erythromycin	0	4	0	<b>4</b>	0	2	0	<b>2</b>
Chloramphenical	3	0	0	<b>3</b>	0	0	0	<b>0</b>
Cotrimoxazole	1	5	0	<b>6</b>	0	0	0	<b>0</b>
Amoxycillin	4	7	0	<b>11</b>	1	4	0	<b>5</b>

The inappropriate drug items that were available in grocery stores, were collected from total 50 grocery stores. The number of inappropriate drug available range from 3 to 10 items per grocery. Some groceries were found to have more than 4 antibiotic items. But most grocery stores, still sold Tetracycline (28 groceries), Aspirin powder 60 mg (22 groceries), Penicillin 400,000 iu (17 groceries), Amoxycillin (11 groceries). After launching a program by OR-YOR-NOI students in each community with the support of health volunteer and health staffs, the number of groceries that sold the inappropriate drugs was decreased. It was found that the drug items which still be the most available is Aspirin power (20 groceries), Tetracycline (19 groceries) and Penicillin (14 groceries). Moreover, it was found that Chloramphenical and Cotrimoxazole were not available. (Table 9)

3.2 The data about the drug knowledge of the family members who live with OR-YOR-NOI students had been collected by using questionnaire. The students was trained by the pharmacist how to ask and collect the data. There were two parts of the questionnaire, first was the questions about general drug use for safety drug use, and second was about the knowledge that related to the inappropriate drug items in the list. If the correct answers had been chosen over 60% (getting the score of 12 out of 20) of all questions, it was counted that family member passed the test. The knowledge of family's member in village which is compared between before

and after running the program by the OR-YOR-NOI student in a household present in the table 10.

**Table 10:** The number and percentages of family's member knowledge in village which is compared between before and after running the interventions by the OR-YOR-NOI student in a household (N=150)

Data	Before	After
1. Number of family member who passed the exam	71	101
2. Percentage of family members who passed the exam	47.33	67.33

The average score of people's knowledge about drug use in community was statistically significant difference between before and after the intervention (the total average score before was 10.65 comparing with after score at 11.69, at p-value = 0.01). The highest increasing of the average score was found in Anuban Lumpuk school OR-YOR-NOI student family's member was 12.60 and Khamkhuenkaew Chanupatham school OR-YOR-NOI student family's member was 12.23. It was found that the number of peoples in OR-YOR-NOI student household who have drug knowledge score equal or higher than 12 were increased from 71 peoples (47.33%) to 101 peoples (67.33) after launching an OR-YOR-NOI interventions. Anuban Lumpuk school family member had the highest percentage of ones who got the scores equal or more than 12, 73.33% (22 in 30) and the lowest was found in Lao Fhai OR-YOR-NOI school family member, 60.00% ( 18 in 30). Table 11 presented the score divided into 5 ranges of score and the average, standard deviation in each school areas.

**Table 11** The number of family members who got the drug knowledge scores in each range comparing before and after intervention.

Range of score (Full score is 20)	Khamkhuenkae w Chanupatham school		Anuban Lumpuk school		Ban Lao Fhai school		Ban Khokklang school	
	Before	After	Before	After	Before	After	Before	After
16 - 20	0	5	0	1	0	1	0	2
12 - 15	33	37	13	21	11	17	14	19
8 - 11	25	16	14	8	14	12	14	9
4 - 7	2	2	3	0	5	0	2	0
0 - 3	0	0	0	0	0	0	0	0
Average score	11.52	12.23	10.87	12.60	10.30	12.13	10.90	12.10
SD	2.00	2.27	2.27	1.63	2.55	1.98	2.31	2.09
Total	60	60	30	30	30	30	30	30
Total average score	Before average = 9.91 (SD =2.24) After average = 13.06 (SD=2.76)							

The OR-YOR-NOI student roles that created to promote rational drug use in community have six activities or intervention that launch in community. The students have designed their roles to promote rational drug use in the community by having training and following the concept of ISD. The ISD model was applied in high school student and primary to create the roles to improve an appropriate drug use in community. During the implementation of the program with the grocery they studied only about the impact of their roles according to ISD concept without applying the ISD concept.

3.3 The experience and attitude of OR-YOR-NOI student toward the program and inappropriate drug use in their communities.

### 3.3.1 The analgesic and muscle pain relief's drug use behavior

About fifty percent of the students experienced these drugs by buying from the drug stores, or getting from the hospitals. The reason is that 48.67 % of them have experienced them from the past and it is not used regularly, 58.67 percent of them use it 2-3 times a month. For the past one month 88.67% of the students have not used these drugs. Before the study there were up to 69.33 % of the students did not know the danger of using these drugs, whereas after intervention 73.33% of them decided not to use these drugs from the community groceries. The rest still used them due to the convenience and availability.

### 3.3.2 The antibiotic drug use behavior

The research found that 88.67% of the students have the experience in using anti-biotic which they mostly take it from the hospital, local hospital and clinic respectively. The reason to take it from the hospital is depended on their own experience for about 62% and 28% from the suggestion of the neighbors. They do not use anti-biotic regularly, only few times a month. For the past one month 80.67% of the students have not used these drugs because they knew the danger of using this drug. Before studying, 38% of the students have known about anti-biotic from the hospital and the local hospital. After the study 97.33 % of the students decided not to buy anti-biotic by their own but prefer to take it from the hospital or local hospital.

### 3.3.3 Knowledge and attitude toward inappropriate drugs selling in the groceries

Regarding to the interview that was done by the OR-YOR-NOI students, there were 83.33% of the groceries understood that the law did not allow the groceries to sell the inappropriate drugs, and 82% of them knew that there was a government policy in restriction of antibiotic drugs and pain relief drugs that have steroid in it. 54.70% of them also knew the reason why the government has to control these drugs due to the safety of the patients. Additionally, OR-YOR-NOI recommended that the responsible persons or organizations should promote appropriate and safe drug use in the communities, regularly inspect the groceries and punish the groceries that sell drugs illegally.

**Table 12:** The experience and attitude of high school student toward the inappropriate drug sold in grocery stores

Experience and attitude toward the inappropriate drug use	Percentage of OR-YOR-NOI student	
	Analgesic and muscle pain relief's drug	Antibiotic drug
The percentage of students who have experience about the inappropriate drugs from the past	48.67	83.33
The percentage of students who access the drug by buying from the drug stores or the hospitals.	50	88.67
The percentage of OR-YOR-NOI students who use the drugs 2-3 times a month.	58.67	16.67
The percentage of OR-YOR-NOI students who did not use the drugs within past one month.	88.67	80.67
The percentage of OR-YOR-NOI students who decide not to buy the drug from the community groceries after attending the training in preparation phase	73.33	97.33

The knowledge of drug safety use among OR-YOR-NOI school students was evaluated. it was found that before taking a course in preparing phase there was only 41.67% of high school students and only 31.11 % of primary school students who passed the exam about drug knowledge. After the training which focusing on the topic of drug safety use in a class every Thursday and after launching “Phee Son Nong Model” in primary school, the knowledge about drug safety among the students grew up to 77.78% and 88.33 % for primary and high school students respectively.

**Table 13:** The knowledge about inappropriate drug use in community collected form OR-YOR-NOI student Primary and High school

Range of score (Total = 20)	Number of the students							
	Khamkhuenkaew Chanupatham school		Anuban Lumpuk school		Ban Lao Fhai school		Ban Khokklang school	
	Before	After	Before	After	Before	After	Before	After
16 - 20	2	19	0	9	0	6	1	11
12 - 15	23	34	8	13	9	14	10	16
8 - 11	30	7	3	8	15	10	20	3
4 - 7	5	0	2	0	6	0	1	0
0 - 3	0	0	1	0	0	0	0	0
Average	10.97	14.37	10.17	14.00	10.17	13.27	10.93	14.67
SD	2.43	2.92	1.60	3.07	2.69	2.48	2.03	2.41
Total	60	60	30	30	30	30	30	30
Total average score	Before average = 10.63 (SD =2.26) After average = 12.07 (SD=2.05)							

The knowledge score of OR-YOR-NOI students in all schools collected by using questionnaire survey before and after launching the intervention. It was found that the average score for all students was different when comparing between before and after (before 9.91, after 13.06, p-value = 0.01). In Ban Khokklang school, it was found that the students had the highest average score (score = 14.67). The percentage of student who had score equal or more than 12 in Ban Kokklang School was the highest followed by Khamkhuenkaew Chanupatham, Anuban Lumpuk school and Ban Lao Fhai school. Their scores were 93.33%, 88.33%, 73.33% and 66.67% respectively.

## **CHAPTER V**

### **DISCUSSION AND CONCLUSION**

This chapter was divided into three parts which consists of discussion, conclusion, and recommendation.

The concept of “Drug safety intervention” is a new challenge that a pharmacist is able to improve the appropriate drug use in community by connecting to OR-YOR-NOI students. The objectives of the research were conducted to investigate whether OR-YOR-NOI students who have become one of the key actors to improve the health consumer protection in food and cosmetic products, could apply to the consumer protection in drug safety use among community members. Pharmacists were expected to be responsible for drug system monitoring and development in their areas. In this study, the researcher as a pharmacist in Khamkhuenkaew hospital took a very important roles to support OR-YOR-NOI students in the four schools including Khamkhuenkaew Chanupathum School, and Lao Fhai School, Khoak klang School, and Kkinderkaten Lumpuk School. The ISD or ADDIE Model was applied as a tool for facilitating the learning process of the OR-YOR-NOI students. In the study, both secondary and primary schools’ students altogether developed the interventions to improve the situations of inappropriate drug use in their communities. After implementing, it was found that the situations were better in several aspects. Some discussions of the study were as followed:

#### **1. Intervention development**

##### **1.1 Effectiveness of ISD or ADDIE process on intervention development**

ISD Model that comprises ADDIE steps was applied as a guide for the learning process of the OR-YOR-NOI students. In the analysis phase the students were interested in drug problem in their household. The “root cause analysis” helped the student to clarify the root causes of drug use problem in the community along with “brainstorming” concept. The challenges of the analysis were not only the use of root cause analysis and brain storming technique, but also the input of information and

evidences about drug problems in their community by the pharmacists. Some relevant researches and case studies about the patients in their communities who experienced the side effects of unsafe drug use were the convincing and interesting information as the input for the analysis phase.

In the design and development phase, the primary school students have less experience about OR-YOR-NOI roles because in some schools, they just launched food safety or cosmetic safety project recently. So, some of them were not able to strengthen their OR-YOR-NOI's program. "Phee Son Nong" activity was taken into action to strengthen the program with the involvement of high school students, due to they have more skills and be able to work continuously. It was proved that the training and coaching primary students by the secondary school students worked well under this activity. During the study, it was observed that there was good relationship among the students from different schools. Furthermore, they are very interested in learning the detail of the program.

In Development phase in both primary school and high school, they had created activities to be able to achieve the goals of the project therefore many activities were quite the same as the OR-YOR-NOI program in general. The students created and launched new roles to improve drug use in their household which was called "Good Faith Diary". It was adapted from "Trash bank diary" integrated with DOT concept to improve drug adherence in TB clinic. Besides, the students had obtained new knowledge of drug and knew how to search drug information that was easy access and available in their community. The internet and drug's information resources were very interesting for them to learn about drug. The issue about drug was very specific and difficult for young students to understand without basic pharmaceutical knowledge. The other concepts of "How to read a drug label" was created and designed to improve safety use of drug in their household too. This concept was created under the interest of the students themselves, the pharmacists and health staffs had just designed and taught them at the beginning when they created a program.

In the evaluation phase, it was found that although the researcher did not support in several activities, the students were still able to launch the program on their

own like “The “Community radio announcement”, “Brochures about easy drug information for household”, “Morning school announcement” and some survey in grocery.

“Phee Son Nong” model was one of the main concept in the OR-YOR-NOI program. The elder (Phee) who are the experienced students train the younger (Nong) students about food and cosmetic safety. It was launched in all high schools that have OR-YOR-NOI’s club. The study confirmed that “Phee Son Nong” model was so successful in promoting the drug safety use as same as the food safety and cosmetic safety project. The study found that before taking a course in preparing phase there was only 41.67% of high school students who have knowledge about drug and only 31.11 % in primary school students. After training related topic of drug safety use in a class every Thursday and launching “Phee Son Nong Model” in primary school the knowledge about drug safety for child has grown up to 77.78% and 88.33 % for primary and high school students.

## 1.2 Basic requirements for effective intervention development

1.2.1 The strong OR-YOR-NOI club: continuous consumer protection activities in the schools by the volunteer students.

In case of the groceries where high school students had more experience and good relation with health volunteers and the grocery owners, the intervention was easy to launch and gave a good result in the village. On the other hand primary school students who had less experience and still young, the program did not seem to have a good result as same as in the former area although the health volunteers helped them to implement the interventions. However, most primary school students were able to strictly follow the drug safety concept and the hazardous drug elimination in the community groceries.

1.2.2 The support from health personnel to strengthen the OR-YOR-NOI students

This intervention could be more effective with the support of health staffs. The collaboration among health officers, hospital staffs, school directors and teachers

was very important for launching and extending of the program in the school. This is because all stakeholders have the same intention to improve the quality of community's health.

## **2. Intervention Implementation**

### 2.1 The effective interventions found in the study

2.1.1 “Good Faith Diary” was the diary that the primary students noted their activities when they gave information and helped their families such as reading drug label, etc. In some families, there were chronic patients in their households, thus they designed “Checking drug use by heart” to improve the adherence of drug use among the patients by getting supported information and technique from the pharmacist. The innovation of “Checking drug by heart was adapted from the “DOT by Heart Program” that has been so successful in TB clinic. This was applied and shared to the students to improve compliance of other drugs use in their household)

2.1.2 “Six pages novel in 7-Right<sup>1</sup> technique for drug safety use” was presented in OR-YOR-NOI high school students to teach primary student. “Six pages novel” is the story novel on a six pages roll that created and designed in cartoon or art. Firstly this creativity was applied in art and health sanitation substance in Khamkhuenkaew Chanupatham School. Later the high school OR-YOR-NOI applied this together with the 7-R technique to improve knowledge about drug safety use in primary school and to understand about “How to use a drug for safety by 7-R technique?” and “How to keep a drug before expired date?” (see figure 5)

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<sup>1</sup> 7 Right of safe medication administration: RIGHT drug, RIGHT client (Two Identifiers), RIGHT dose, RIGHT time, RIGHT route, RIGHT reason, RIGHT documentation. Available from: [http://dynamicnursingeducation.com/class.php?class\\_id=38&pid=15](http://dynamicnursingeducation.com/class.php?class_id=38&pid=15)



**Figure 5** The pictures of six pages novel

## 2.2 The factors influencing how to implement the interventions effectively.

2.2.1 The supports from the Provincial Health Office and Community Hospital pharmacists were important to launch a program. Health personnel could promote appropriate drug use in community by applying the ISD model and followed the steps of ADDIE as a guide to empower the students. The ISD model should utilize as a learning platform that the health staff and pharmacist had to design to be related with the situation of the drug problems in communities.

2.2.2 The co-ordination with director and teacher in each school and with community leaders in order to ask for the support of some resources to launch a program was necessary. The support meant not only resources support but also the legal power support for some interventions that had to use legal support.

2.2.3 Although in many schools still had OR-YOR-NOI club but the model was required that only the strong OR-YOR-NOI club was able to launch a program in their school and community around the schools effectively. “Phee Son Nong” model was a key activity that OR-YOR-NOI club could apply to promote inappropriate drug knowledge to the younger student in primary school. The “Good Faith Diary and other intervention of OR-YOR-NOI roles” could be applied to improve knowledge about drug in families members. Direct information to the family by handing out the brochure could improve the knowledge and remind them about drug usage. Another barrier that could be found is the lack of student’s interest in the program.

2.2.4 The relationship of the students and their families is definitely important. This is especially when the students have the information about appropriate drug usage they will have more concerns about people around them. Furthermore, good relationship in the family leads to the better efficient and less obstacle of program. Some family mentioned that they loved their children and believed that their children would be able to help them in safety drug usage included helping the member who had a chronic disease. This can be concluded that the more effective program could be depended on the relationship and the opportunity of the family to join the program.

2.2.5 In the community's field work, the community culture should be taken into account, for example it would be difficult to launch any interventions during rainy season when the people are busy with farm work. Thus, using "Community calendar" could help to make a better plan for the most efficient field work.

### **3. Limitation of the intervention toward the effects on the appropriate drug use promotion**

3.1 The true information about inappropriate drug selling in the groceries was considered to be validated since the selling such drugs were illegal in the grocery owners' view. Therefore, it needs to maintain the intervention in order to make the inappropriate drug availability disappeared sustainably.

3.2 The effected of OR-YOR-NOI roles aiming to increase the knowledge of family member could not definitely assume that the increasing of the knowledge scores caused by the intervention since there probably are other inputs from other sources of information.

### **Conclusion**

This study found that the role of OR-YOR-NOI students could improve the situation of inappropriate drug use in community. The result showed that there was an effectiveness of an increasing of drug safety use knowledge for children and peoples in the community after launching the program although pre survey for drug knowledge in both group is not significant difference. The grocery which sold hazardous or illegal drug has decreased. There was just only minor change in reducing

the items of the inappropriate drug list. Only the villages that have a connection with health volunteers are effective.

ISD or ADDIE Model could apply to improve a performance of student in OR-YOR-NOI's club. The high school OR-YOR-NOI student's club had the effective roles on improving the inspection skill from the ability to read drug labels and the training program about "drug safety use for child and peoples". Among OR-YOR-NOI primary school students, they were different in skills and ability to access to the information resources, but some were more interested in problem and innovation design. The result after launching a program in preparing phase showed the improvement of drug knowledge in both OR-YOR-NOI student clubs of high school and primary school. The OR-YOR-NOI students in high school had good understanding and were able to apply ISD and "Phee Son Nong" model to improve and develop a program for primary school.

The roles of OR-YOR-NOI students to promote appropriate drug use in community have the impact on improving drug safety use knowledge in family. The OR-YOR-NOI's roles could develop by using ISD or ADDIE theory. The OR-YOR-NOI student roles including

1. Announcer: They take an action as the announcer in their school, communicating via community broadcast.
2. Coaching: High school OR-YOR-NOI student learned and gained some techniques to coach younger student in primary school such as empowering the movement on dealing with inappropriate drug use, playing a role of a leader, obtaining the skill of working as the OR-YOR-NOI and creating an innovative six pages novel.
3. Mentor: High school students could be mentor or facilitator, they even support young student when they down or could not create activities or have low motivation to develop the interventions.
4. Inspector: All high school and primary school OR-YOR-NOI students could inspect the inappropriate health product by testing and using

their particular skills not only taking an action in their household, school and their communities. The additional information was provided by the pharmacist., but they also reported and coordinated with pharmacist at the hospital.

5. Creator: They can create the effective media to improve a knowledge about inappropriate drug use in community such as “Good Faith Diary” and “Six pages novel, etc.

## **Recommendation**

Since the students who are involved in this study, have a strong intention to participate, have strong interest in health science and health related problems, this leads to the effective intervention. Most of the students in OR-YOR-NOI’s club understand well in ISD concept, RCA and brain storming concept. If they have a chance to improve this skill and learn to clarify the situation in class or daily life, this will enhance their skill and performance for living.

The lessons learned from the study definitely confirm that OR-YOR-NOI students can contribute a lot on promoting the appropriate drug use in community with the support of pharmacists and health personnel. In order to make benefit to improve drug safety among community members, including avoiding and concerning about inappropriate and hazardous drugs available in community, improving drug adherence in chronic patients. The OR-YOR-NOI students could also absolutely help the adult or the youth in their families by providing drug safety use information for their family or community members. However, the designing of content in preparation phase needs to be supported by the health staffs and pharmacists and developed under the context and problems of community.

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## **APPENDICES**

**APPENDIX A:**  
**QUESTIONNAIRE (ENGLISH)**

Form 1 For OR-YOR-NOI student, family member, grocery seller

**Knowledge about Antibiotic and Analgesic and muscle relaxant drug use,  
Attitude Questionnaire**

**In study of “PROGRAM DEVELOPMENT AND EVALUATION OF “OR-YOR-NOI PROJECT” TO PROMOTE APPROPRIATE DRUG USE IN COMMUNITY, KHAMKHUENKAEW DISTRICT, YASOTHORN PROVINCE”**

**Demographic data**

Name.....Surname.....Sex.....Age.....years

Address.....House number.....village name.....Tambol Lumpuk,  
Khamkhuenkaew District, Yasothron Province.

This questionnaire is purpose to evaluate drug knowledge, experience and attitude about drug use in community.

This questionnaire compound with 3 parts:

The First part “General knowledge about basically drug use”

The Second part “Knowledge about hazardous and side effect of antibiotic and NSAID drug use”

The Third part “Attitude and an experience drug use in community”

First part “General knowledge about basically drug use”

1. In drug label or zip pack label which you receive form a hospital, what is the necessary understand and strictly follow?
  - a. Route to manage drug as how many tablet to take in each day, period of time to take a drug etc.
  - b. Warning as “do not take without meal, don’t use with allergy patient etc.
  - c. Must check name, sure name for right patient or not
  - d. All are correct
2. If a drug that you receive, that specify as “Antibiotic drug” and must take this drug continuously until is full course; what is meaning?
  - a. Should met the doctor to refill this drug cause is continuously medication.
  - b. This drug is anti-inflammatory drug, if pain are relief, can off this and if need can take it again.

- c. This drug is antibacterial drug, and must take a drug continuous until full course although good chief clinical sign, because if un-continuous take will be resistance.
  - d. The Antibiotic drug is high cost drug, so to prevent lost of quality will take before drug expired.
3. In case that doctor and pharmacist has informed you that this drug will take before meal one time a day, what is the meaning?
  - a. After wake up, will suddenly take this drug before forgot to take it.
  - b. Take this drug before meal suddenly, cause need to absorb with a meal.
  - c. Take this drug before meal 15 minutes.
  - d. If forgot take a meal in the morning, patient can off this drug in these day.
4. What is incorrect about warning message in drug label?
  - a. "This drug can't take with a milk because will reduce absorbed.
  - b. "Take drug with meal to prevent GI tract irritated"
  - c. "Kept this drug in cool place or refrigerator, don't used more than 1 month since open a packaged.
  - d. "Please met the doctor within date"
5. What is a correct choice?
  - a. The children can use a drug with adult, so can use drug to a children at home by yourself.
  - b. Patient who are liver and renal failure they can take dose same general patient.
  - c. In DM elderly patient if forgot to take a drug should be have a severe adverse.
  - d. All are correct.
6. What is in-correct to keep and store a drug?
  - a. Eye drop preparation keep in cool temp and not use over 1 months
  - b. Capsule dosage form can keep to be used over 1 year after break a capsule.
  - c. Oral suspension dosage form in child preparation, keep in cool place and not over 14 days.
  - d. Capsule preparation from must not break a capsule before take it.
7. In case of patient who got more items of drug and need to take all, what is in-correct in a concept of drug safety use?
  - a. To prevent forgotten take a drug, can mix all of before and after meal drug with in a time.
  - b. In after meal drugs items, can take all of this in same time.

- c. If have to use eye drop preparation, can use one before and use other follow 15 minutes.
  - d. In case of take same medication same items name, can use and refill in one pack, and take in the last doctor ordering, ask other information before use if have any question.
8. If you receive NSAID drug form the doctor, pharmacist will information you as “Take with a meal and drink more water” what is the reason?
- a. It’s a large in size, and rarely dissolution, or will gastric obstruction in case of capsule dosage if drink a few of water.
  - b. It’s bitter, a water can dilute it for easy taken.
  - c. It can be irritation with GI tract, the water and meal can resolve it effect.
  - d. A water increasing absorb rate in GI tract, fasting in effect.
9. What is a correct in a concept of “drug safety use”?
- a. buy a drug by yourself, read a label, meet a doctor, take follow order, take a drug by tell story
  - b. meet a doctor, consult a pharmacist, read a label, take in time, borrowed the other patient if empty
  - c. Self care or first aid, meet a doctor, read a label, take with information by pharmacist, kept drug in a good place
  - d. Tell a doctor or pharmacist when allergy, take with pharmacist information, if necessary adult drug form can apply to use in child.
10. What isn’t the concept to use medicinal household drug?
- a. Paracetamol can use in case of cold
  - b. Chlopheniramine can use in case of stuffed nose or cold
  - c. Aspirin can use in high temperature in child fever case
  - d. Milk of magnesia suspension 1 -2 spoon can use in constipation case

Part 2 “Knowledge about hazardous and side effect of antibiotic and NSAID drug use”

1. What is a precaution of Aspirin use?
- a. Very photo sensitivity or physical change so don’t use if a sour taste
  - b. In children fever case can use but not use in DF case

- c. In alcoholic case and GI bleeding case, must high risk of side effect
  - d. All are correct
2. What is a correct about Diclofenac use?
- a. Some trade name available as Difelene, Fenac etc.
  - b. Is one of NSAID drug that have irritated with GI tract, might cause of Gastritis
  - c. Do not use in term of pregnancy case
  - d. All are correct
3. What is side effect of Piroxicam ( Pox, or Pox109)?
- a. Gastritis via irritation effect
  - b. edema, Myocardial infarction
  - c. Bronchio spasm, urticaria
  - d. All are correct
4. If you receive Ibuprofen form a doctor or pharmacist store, what is clinical sign that you must suddenly tell to them?
- a. black feces, red blood in urine, weakness, fatigue
  - b. vomiting with blood clot as coffee color, increasing weight, edema
  - c. Nausea, vomiting, heartburn, chest pain in upper GI tract
  - d. All are correct
5. What is correct about side effect of Tetracycline?
- a. Continue use, will cause of Gastritis
  - b. Although color change into brown yellow, still effective to use
  - c. In liver failure case can use this drug
  - d. May be a reason of hearing problem in child, and brown teeth
6. What is not the effect of in-appropriate Pennicilin use?
- a. cause of resistance antibiotic drug
  - b. anaphylactic shock
  - c. GI irritation

- d. Allergy, Dyspnoea
7. What is the side effect of Erythromycin?
- a. Urticaria, rash, mouth and tongue swelling
  - b. chest pain, problem hearing, urine color change
  - c. skin and mouth burns
  - d. All are correct
8. What is in-correct about the side effect of Chloramphenical use?
- a. Do not use with case allergy to this drug and other antibiotics
  - b. Patient who have disease about circular system, mouth, teeth, liver or renal failure don't use this drug
  - c. Can use this drug in pregnancy case by recommend of doctor and pharmacist
  - d. Depress immunology system and reason of low immune
9. What is precaution in Clotrimoxazole use?
- a. Drinking large volume of water to improve soluble and secrete with urine
  - b. In-appropriate use might cause of drug resistance
  - c. Diarhea case not necessary to use all case
  - d. All are correct
10. What is precaution in Amoxycillin use?
- a. Available to use and sold in grocery
  - b. In case of Pennicilin allergy, might allergy to this drug too
  - c. It's only one drug that have not resistance problem
  - d. Both of B and C are correct

### **Part 3“Attitude and an experience drug use in community”**

#### **3.1 Behavior of analgesic and muscle relaxant drug use in community**

1. Do you have experience in analgesic and muscle relaxant drug use or not?

( )Yes (Skip to number 3)                      ( )No

2. What is your reason to don't treat these symptoms? (Can choose more than 1 reason)

It's cloud relief by itself

Believe that the symptoms should relief when rest or stop of work

Don't want to paid more cost

Other as \_\_\_\_\_

3. If you have an experience to treat this symptoms, What is the method to choose? ( You can select more than 1, and not ranking)

Herbal medicine

Self medication use  Drug store, the items is.....  Grocery store, the items is.....

Alternative medicine

Thai traditional massage  Acupuncture  Traditional medicine as method \_\_\_\_\_

Place to have this service  Health community office  Community hospital  Clinic

Superstition, Witchdoctor

Other as \_\_\_\_\_

4. What is your reason to choose this method to the first decision to treat these symptom?

Past experience have good result

Neighbors/relative family advice

Cheap cost

Grocery seller in the village advice)

Health security insurance/ right to claim

Believe in spot advertizing through  TV  radio  Newspaper

5. What is the result form treatment that you have to choose?

Completely cure

Moderate cure

Not change

More severe

6. How do you satisfied with this method that you have to choose?

Very good cause.....

Fair cause.....

Low satisfied case .....

Not satisfied cause.....

7. How many frequency of use NSAID drugs?

everyday

irregularly, depend on a symptoms

2-3 per week       once a week    once a month     one time within 2-3 months

8. Within 1 month later, Do you have used NASID drugs or not?

Yes

No, because

Have the side effect as.....

A symptoms still remain

Have knowledge about hazardous so fear to use this

Have the other way to relief a symptoms as

9. Where do you got NSAID or analgesic and muscle relaxant drug form?

Village grocery store

Drug store     In District     In Provincial     Other as.....

Peddle car

Neighbors/Relative family

Wholesaler delivery to community

Other as \_\_\_\_\_

10. Do you have been knew the NSAID drug is a hazardous effect?

Don't know (skip to number 12)

Know as \_\_\_\_\_

11. Who do you got the information about the hazard of NSAID drugs?

Health volunteer

Health staff at..  Health community office  Hospital

Advertizing  TV  Radio  Newspaper  Brochure

Neighbors/Relative family

Other as \_\_\_\_\_

12. What is your reason to choose NSAID drug to treat a symptoms (Can choose more than 1 reason and set priority too)

Easy to buy it, and more available

Have an experience in used

Neighbors/ Relative family advice

Grocery seller advice

Not impression with government health service, high cost

Far from government health office

Information from advertising

Other \_\_\_\_\_

13. Satisfaction in NSAID use

Fasting effect

Safe time

Safe cost

No side effect

Other \_\_\_\_\_

14. In the future if you have a symptoms as muscle pain, Do you decision to use NSAID drug in grocery store in the village or not?

Yes because

convince and most available  fasting effect  Safe time  Safe cost  
 Other.....

Use less than the past because  Know side effect  Fear a hazard  Other.....

Do not use because

Know a hazard or side effect  Have a service in health community office /hospital

Fear a serious hazard effect  Have alternative medicine to choose

Other \_\_\_\_\_

### 3.2 Behavior to use Antibiotic or Antibacterial

1. If you have a symptoms as sore throat, cold, lower abdominal pain, lower back pain etc. Do you have an experience to treatment?

Yes (Skip to number 3)  No (Answer number 2, and stop to answer this part)

2. What is your reason to don't treat these symptoms? (Can choose more than 1 reason)

It's cloud relief by itself

Believe that the symptoms should relief when rest or stop of work

Don't want to paid more cost

Other as \_\_\_\_\_

3. If you have an experience to treat these symptoms, What is the method to choose? ( You can select more than 3, and not ranking)

Herbal medicine

Self medication use  Drug store, the items is.....  Grocery store, the items is.....

Alternative medicine  Thai traditional massage  Acupuncture  Traditional medicine as method \_\_\_\_\_

Place to have this service  Health community office  Community hospital  
 Clinic

Superstition, Witchdoctor

Other as \_\_\_\_\_

4. What is your reason to choose this method to the first decision to treat these symptom?

Past experience have good result

Neighbors/relative family advice

Cheap cost

Grocery seller in the village advice)

Health security insurance/ right to claim

Believe in spot advertizing through       TV  radio  Newspaper

5. What is the result form treatment that you have to choose?

Completely cure

Moderate cure

Not change

More severe

6. How do you satisfied with this method that you have to choose?

Very good cause.....

Fair cause.....

Low satisfied cause.....

Not satisfied cause.....

7. How many frequency of use NSAID drugs?

everyday

irregularly, depend on a symptoms

2-3 per week       once a week     once a month  one time within 2-3 months

8. Within 1 month later, Do you have used NASID drugs or not?

Yes

No, because

- Have the side effect as.....
- A symptoms still remain
- Have knowledge about hazardous so fear to use this
- Have the other way to relief a symptoms as  
\_\_\_\_\_

9. Where do you got NSAID or analgesic and muscle relaxant drug form?

- Village grocery store
- Drug store  In District  In Provincial Other as.....
- Peddle car
- Neighbors/Relative family
- Wholesaler delivery to community
- Other as \_\_\_\_\_

10. Do you have been knew the NSAID drug is a hazardous effect?

- Don't know (skip to number 12)
- Know as \_\_\_\_\_

11. Who do you got the information about the hazard of NSAID drugs?

- Health volunteer
- Health staff at..  Health community office  Hospital
- Advertizing  TV  Radio  Newspaper  Brochure
- Neighbors/Relative family
- Other as \_\_\_\_\_

12. What is your reason to choose NSAID drug to treat a symptoms (Can choose more than 1 reason and set priority too)

- Easy to buy it, and more available
- Have an experience in used
- Neighbors/ Relative family advice
- Grocery seller advice

- Not impression with government health service, high cost
- Far from government health office
- Information from advertising
- Other \_\_\_\_\_

13. Satisfaction in NSAID use

- Fasting effect
- Safe time
- Safe cost
- No side effect
- Other \_\_\_\_\_

14. In the future if you have a symptoms as muscle pain, Do you decision to use NSAID drug in grocery store in the village or not?

- Yes because
  - convince and most available
  - fasting effect
  - Safe time
  - Safe cost
  - Other.....
- Use less than the past because
  - Know side effect
  - Fear a hazard
  - Other.....
- Do not use because
  - Know a hazard or side effect
  - Have a service in health community office/ hospital
  - Fear a serious hazard effect
  - Have alternative medicine to choose
  - Other \_\_\_\_\_

**3.3 Knowledge and Attitude to drug sell in groceries store**

15. Do you think “YA-CHUD” is legal to sold in grocery store or delivery car in the village or not?

- Legal (Skip to answer in 17)
- Illegal
- Don't know

16. What is the reason that government act as illegal hazardous drug in grocery store in your mind? (Antibiotic drug and NSAID drug), can choose more 1 reason

( ) Don't know

( ) If in-appropriate use may be severe cause of side effected

( ) It's illegal drug items to sold in grocery store

( ) other \_\_\_\_\_

17. Your suggestion to government will improving appropriate and safety drug use for people.

.....

.....

**APPENDIX B:**  
**QUESTIONNAIRE (THAI)**

ชุดที่ 1 สำหรับนักเรียน, สมาชิกในครัวเรือน, ผู้ประกอบการร้านค้า

### แบบสอบถามความรู้ด้านการใช้ยาในกลุ่มยาปฏิชีวนะและยาลดการอักเสบ

ในโครงการวิจัยเรื่อง “การพัฒนาและประเมินโครงการ อย.น้อย เพื่อส่งเสริมการใช้ยาที่เหมาะสม  
ในชุมชน ของอำเภอคำเขื่อนแก้ว จังหวัดยโสธร”

#### ข้อมูลผู้ตอบแบบสอบถาม

ชื่อ.....สกุล.....เพศ.....อายุ.....ปี

ที่อยู่.....เลขที่.....บ้าน.....ตำบลลุมพุก อำเภอคำเขื่อนแก้ว จังหวัดยโสธร

แบบสอบถามนี้มีวัตถุประสงค์เพื่อประเมินความรู้ด้านการใช้ยา, ประสิทธิภาพและทัศนคติเกี่ยวกับการใช้ยา

โดยที่แบบสอบถามประกอบไปด้วยชุดคำถาม ๓ ส่วน ได้แก่ ส่วนที่ ๑ ความรู้ทั่วไปเกี่ยวกับการใช้ยาเบื้องต้น

ส่วนที่ ๒ ความรู้เกี่ยวกับอันตรายและผลข้างเคียงที่เกิดจากการใช้ยาปฏิชีวนะและยากุ่มด้านการอักเสบที่มีไ  
สเตียรอยด์ และส่วนที่ ๓ ทัศนคติและพฤติกรรมการใช้ยาในชุมชน

#### ส่วนที่ ๑ ความรู้ทั่วไปเกี่ยวกับการใช้ยาเบื้องต้น

๑ ข้อมูลในฉลากยา หรือซองยาที่ท่านได้รับจากโรงพยาบาล มีข้อมูลใดที่ท่านจำเป็นต้องศึกษาและ  
ปฏิบัติตามอย่างเคร่งครัด

- ก. วิธีการรับประทานยา เช่น ครั้งละ กี่เม็ด, วันละกี่ครั้ง, ช่วงเวลาที่ต้องทานยา เป็นต้น
- ข. คำเตือน เช่น ห้ามรับประทานตอนท้องว่าง, ห้ามใช้ยากับผู้ที่แพ้ยานี้ เป็นต้น
- ค. ต้องดูชื่อ และนามสกุลบนซองยาว่าตรงกับชื่อผู้ป่วยหรือไม่
- ง. ถูกทุกข้อ

๒ หากยาที่ท่านได้รับนั้น ระบุว่า เป็นยาปฏิชีวนะ ให้รับประทานยาอย่างต่อเนื่องติดต่อกันจนยา  
หมด หมายความว่าอย่างไร

- ก. ยานี้เป็นยาที่ต้องใช้รักษาอาการต่อเนื่อง เมื่อหมดยาต้องมาพบแพทย์เพื่อรับยาต่อเนื่อง
- ข. ยานี้เป็นยาที่มีฤทธิ์แก้อักเสบ หากอาการหายแล้ว สามารถหยุดยาก่อนได้ หากเป็นซ้ำ  
สามารถนำยาที่เหลือมารับประทานได้ต่อเนื่อง

- ค. ยานี้เป็นยาฆ่าเชื้อแบคทีเรีย การกินยาต้องกินติดต่อกันทุกวันจนหมด แม้ว่าอาการจะดีขึ้นแล้วก็ตามเนื่องจากหากขาดยาระหว่างมือหรือหยุดยาเอง จะทำให้มีโอกาสเกิดการดื้อยาได้
- ง. ยาปฏิชีวนะเป็นยาราคาแพง หากรับประทานไม่ต่อเนื่องจะทำให้ยาที่เหลือเสื่อมสภาพก่อนกำหนด เป็นการสิ้นเปลือง

๓ ในกรณีที่แพทย์สั่งจ่ายยา และเภสัชกร ได้ให้คำแนะนำท่าน ให้ทานยา ก่อนอาหารเช้า วันละหนึ่งครั้ง หมายความว่าท่านจะต้องทานยาอย่างไร จึงจะถูกต้อง

- ก. หลังตื่นนอนตอนเช้า ให้ทานยาเลยทันที จะได้ไม่ลืมทานยา
- ข. ให้ทานยาก่อนทานอาหารเช้าทันที เนื่องจากยาต้องการการดูดซึมไปพร้อมกับอาหาร
- ค. ให้ทานยาก่อนอาหารมื้อเช้า ในเวลา ๑๕ นาที ก่อนรับประทานอาหารเช้าจริง
- ง. หากไม่ได้ทานอาหารเช้า สามารถดยาในวันนั้นได้

๔ ข้อใดต่อไปนี้ ไม่ใช่ ตัวอย่างคำเตือนบนฉลากยาหรือซองยา

- ก. ยานี้ห้ามรับประทานร่วมกับอาหารหรือนม เพราะอาจลดการดูดซึมของยาได้
- ข. รับประทานยาหลังอาหารทันที เนื่องจากยาอาจทำให้เกิดการระคายเคืองต่อทางเดินอาหาร
- ค. โปรดเก็บยานี้ไว้ในตู้เย็น เมื่อเปิดใช้แล้ว เก็บไว้ได้ไม่เกิน ๑ เดือน
- ง. โปรดมาตามนัดของคลินิกให้ตรงเวลาทุกครั้ง

๕ ข้อใดต่อไปนี้ ถูกต้อง

- ก. เด็ก สามารถใช้ยาร่วมกับผู้ใหญ่ได้ ดังนั้น จึงสามารถเอายาให้เด็กทานเองได้ที่บ้าน
- ข. ในผู้ป่วยที่มีปัญหาโรคตับ หรือไต สามารถทานยาในขนาดเดียวกับผู้ป่วยทั่วไป
- ค. ในผู้สูงอายุ ที่ป่วยเป็นโรคเบาหวาน หากไม่ทานยาต่อเนื่อง อาจเกิดภาวะแทรกซ้อนรุนแรงได้
- ง. ถูกทุกข้อ

๖ การเก็บรักษายาแต่ละประเภท ในข้อใดต่อไปนี้ ไม่ถูกต้อง

- ก. ยาหยอดตา เมื่อเปิดใช้แล้ว ให้เก็บไว้ในตู้เย็นช่องธรรมดา และเก็บไว้ได้ไม่เกิน ๑ เดือน

- ข. ยาเม็ดแคปซูล เมื่อทานยาไม่หมด สามารถเก็บเอาไว้ทานต่อเนื่องได้อีก ๑ ปี หลังแกะเปิดใช้
  - ค. ยาน้ำผสมสำหรับเด็กบางชนิด เมื่อผสมแล้ว ให้เก็บไว้ในตู้เย็นช่องธรรมดาและไว้ไม่เกิน ๑๔ วัน
  - ง. ยาเม็ดแคปซูล ไม่ควรแบ่งทานโดยปลอกเปลือกแคปซูลออก
- ๗ ในรายการยาที่ผู้ป่วยได้รับ อาจมีหลายรายการ และจำเป็นต้องรับประทานทั้งหมดที่ได้รับจากแพทย์ และเภสัชกร ได้ให้คำแนะนำ ข้อใด ไม่ใช่หลักในการใช้ยาาร่วมกันที่ถูกต้อง
- ก. เพื่อป้องกันการลืมทานยา ให้รวบรวมยาทั้งหมดทั้งที่ต้องทานก่อนอาหาร และหลังอาหาร และทานรวมกันได้ และทานยาในคราวเดียวกันได้
  - ข. ในรายการยาที่ระบุเวลาทานยาหลังอาหาร ให้ทานยาทุกชนิดพร้อมกันหลังอาหารได้
  - ค. ยาหยอดตา เมื่อได้รับ ๒ ชนิด ให้หยอดชนิดหนึ่งก่อน ๑๕ นาที แล้วค่อยหยอดชนิดที่ ๒ ตาม
  - ง. ในกรณีที่ได้รับยา จากสถานที่ต่างกัน แต่หากเป็นรายการเดียวกัน ให้รวบรวมใส่ถุงเดียวกัน และรับประทานตามขนาดที่แพทย์สั่งล่าสุด หรือสอบถามเภสัชกรก่อนทุกครั้งที่ยั่งยืน

๘ เมื่อท่านมีอาการปวดเมื่อยกล้ามเนื้อ หรือบริเวณข้อ แพทย์อาจสั่งจ่าย ยาต้านการอักเสบที่มีไม่สเตียรอยด์ซึ่งเภสัชกรมักจะแนะนำให้รับประทานยาหลังอาหารทันทีและดื่มน้ำตามมากๆ เพราะอะไร

- ก. ลักษณะของเม็ดยากุ่มนี้มีขนาดใหญ่และแตกตัวยาก หรือเป็นแคปซูล การดื่มน้ำน้อย อาจทำให้อุดตันทางเดินอาหาร
- ข. เนื่องจากยามีรสขม ต้องการน้ำช่วยในการเจือจางเพื่อให้ทานยาได้ง่ายขึ้น
- ค. เนื่องจากตัวยามีฤทธิ์ทำให้เกิดการระคายเคืองระบบทางเดินอาหาร จึงต้องใช้อาหารและน้ำช่วยเจือจาง
- ง. เพื่อต้องการให้น้ำช่วยขับยา ไปตามระบบทางเดินอาหารและดูดซึมที่ลำไส้ใหญ่อย่างรวดเร็ว ออกฤทธิ์เร็วขึ้น

๙ ข้อใดต่อไปนี้เป็นหลักในการใช้ยาอย่างถูกต้องและปลอดภัย เมื่อมีอาการเจ็บป่วยเกิดขึ้น

- ก. ซื่อยาทานเอง, อ่านฉลาก, พบแพทย์, ทานตามที่ระบุในหน้าซอง, ตามคำบอกเล่า
- ข. พบแพทย์, ปรึกษาเภสัชกร, อ่านฉลาก, ทานยาตรงเวลา, ยืมยาเพื่อนบ้านเมื่อยาหมด

- ค. ดูแลตนเองเบื้องต้น, พบแพทย์, อ่านฉลาก, ทานยาตามคำแนะนำของเภสัชกร, เก็บรักษาอย่างเหมาะสม
- ง. แจ้งแพทย์หรือเภสัชกรเมื่อแพ้ยา, ทานยาตามคำแนะนำของเภสัชกร, เมื่อจำเป็นเอายาผู้ใหญ่ให้เด็กทานได้

๑๐ ข้อใดไม่ใช่หลักการของการรักษาหรือบรรเทาอาการเบื้องต้น โดยการใช้ยาสามัญประจำบ้าน

- ก. ยาพาราเซตามอล ใช้ลดไข้ แก้ปวด
- ข. เมื่อมีอาการเป็นหวัด น้ำมูกไหล ใช้ยา ซิพีเอ็ม (คลอเฟนิรามีน)
- ค. เมื่อเด็กมีไข้สูง สามารถใช้ยา แอสไพรินผงละลายน้ำให้เด็กดื่มเพื่อลดไข้ได้
- ง. เมื่อมีอาการท้องผูก ใช้ยาระบาย แมกนีเซีย ๑ ถึง ๒ ซ้อนโต๊ะ รับประทานได้

ส่วนที่ ๒ ความรู้ด้านอันตรายและผลข้างเคียงที่เกิดจากการใช้ยาปฏิชีวนะและยากุ่มต้านการอักเสบที่มีไซเตดิลรอกซ์

๑ ข้อควรระวังในการใช้ยาแอสไพริน คือข้อใด

- ก. เนื่องจากยาละลายตัวง่าย หากได้กลืนเปรี้ยวแปลว่า ยาเสื่อมสภาพไม่ควรรับประทาน
- ข. สามารถใช้ลดไข้ในเด็กได้ ยกเว้น เป็นไข้เลือดออกห้ามใช้เด็ดขาด
- ค. ผู้ป่วยที่ดื่มแอลกอฮอล์ และมีเลือดออกในกระเพาะอาหาร อาการอาจรุนแรงขึ้นได้
- ง. ถูกทุกข้อ

๒ ข้อใดกล่าวถูกต้องเกี่ยวกับยา ไค โคลฟีแนค

- ก. มีชื่อการค้า เช่น ไคฟีลีน, ฟิแนค, เป็นต้น
- ข. เป็นยาต้านการอักเสบที่มีไซเตดิลรอกซ์ มีฤทธิ์ระคายเคืองทางเดินอาหาร ทานต่อเนื่องทำให้เกิดแผลในกระเพาะอาหารได้
- ค. ห้ามใช้บรรเทาปวดในหญิงตั้งครรภ์ในระยะใกล้คลอด
- ง. ถูกทุกข้อ

๓ ยาไพรอกซิแคม มีชื่อการค้า ว่า ป็อก, ป็อก ๑๐๕ เป็นต้น ข้อใด เป็นผลที่อาจเกิดจากการใช้ยานี้

- ก. อาจเกิดแผลในกระเพาะ จากการระคายเคืองกระเพาะอาหาร
- ข. อาจเกิดภาวะคั่งน้ำ บวม น้ำ จนกล้ามเนื้อหัวใจตายเฉียบพลัน
- ค. หลอดลมหดเกร็ง ลมพิษ

## ง. ถูกทุกข้อ

๔ เมื่อท่านทานยาไอบูโพรเฟน ซึ่งได้รับจากแพทย์ หรือร้านยาที่มีเภสัชกร เมื่อเกิดอาการในข้อใดต่อไปนี้อย่างรุนแรงให้เภสัชกรหรือแพทย์ทราบทันที

- ก. มีสัญญาณว่ามีเลือดออกที่กระเพาะอาหาร ซึ่งได้แก่ อุจจาระดำ ปัสสาวะมีเลือดปน ไม่มีแรง เหนื่อยง่ายกว่าปกติ
- ข. อาเจียนเป็นเลือดหรือมีสีคล้ายเมล็ดกาแฟคั่ว น้ำหนักขึ้นโดยไม่มีสาเหตุ หรือมีอาการบวม เลือดออกผิดปกติ หรือมีรอยจ้ำเลือดฟกช้ำโดยไม่ทราบสาเหตุ
- ค. คลื่นไส้ อาเจียน มีอาการแสบยอดอก (heartburn) หรือปวดช่องคอ มีอาการกดเจ็บบริเวณกระเพาะ

## ง. ถูกทุกข้อ

๕ ข้อใดกล่าวถูกต้องเกี่ยวกับอันตรายของยาเตตราไซคลิน

- ก. กินติดต่อกันนานๆ อาจทำให้เกิดแผลในกระเพาะอาหารได้
- ข. ถึงแม้ว่าตัวยาจะเปลี่ยนสีจากเหลืองนวลเป็นน้ำตาลเข้ม ยังคงทานยาได้ เพราะยังมีฤทธิ์รักษาอยู่
- ค. ผู้ป่วยที่เป็นโรคตับ สามารถทานยานี้ได้
- ง. ยานี้อาจทำให้เกิดผิดปกติต่อการได้ยินในเด็ก หรือเกิดฟันเหลืองได้

๖ ข้อใดไม่ใช่อันตรายจากการใช้ยาเพนนิซิลิน ที่ไม่เหมาะสม

- ก. การใช้ยานี้อย่างพร่ำเพรื่อ อาจทำให้เกิดการดื้อยาได้ง่าย
- ข. ยานี้อาจทำให้เกิดอาการแพ้รุนแรง จนเกิดอาการช็อคได้
- ค. ยานี้อาจทำให้เกิดการระคายเคืองต่อกระเพาะอาหารได้  
เมื่อใช้ยานี้ อาจเกิดอาการแพ้ เช่น แดงหน้าอก หายใจลำบาก ได้

๗ ข้อใดเป็นอาการไม่พึงประสงค์หรืออันตรายจากการใช้ยาอีริโทรไมซิน

- ก. ผิวหนังมีผื่น คัน หน้าบวม ปากบวม ลิ้นบวม หายใจไม่สะดวก
- ข. ปัสสาวะมีสีเข้มขึ้น มีปัญหาเรื่องการได้ยิน เจ็บหน้าอก

- ค. ผิวหนังหรือเนื้อเยื่อภายในปากหลุดลอก บวม แสบร้อน
- ง. ถูกทุกข้อ

๘ ข้อใดกล่าวไม่ถูกต้องเกี่ยวกับอันตรายจากการใช้ยาคลอแรมเฟนิคอล

- ก. ห้ามใช้กับผู้ที่มีการแพ้ยา chloramphenicol ยาในกลุ่ม antibiotics และยาอื่นๆ
- ข. ผู้ป่วยที่เป็นโรคเกี่ยวกับระบบเลือด โรคเกี่ยวกับปาก, ฟัน โรคตับ โรคไต ห้ามใช้ยานี้
- ค. สามารถใช้ยาในหญิงตั้งครรภ์ได้ โดยการวางแผนร่วมกับแพทย์หรือเภสัชกรในการตั้งครรภ์
- ง. ยานี้อาจมีการกดการทำงานของเม็ดเลือดขาวได้ ทำให้ภูมิคุ้มกันร่างกายอ่อนแอ

๙ ข้อควรระวังในการใช้ยาคลอไทรมอกซาโซล

- ก. ยานี้ควรดื่มน้ำตามมากๆ ทุกครั้งที่รับประทานยา เพื่อป้องกันการตกตะกอนของยาที่ไต
- ข. การใช้ยานี้อย่างพร่ำเพรื่ออาจทำให้เกิดปัญหาการดื้อยาได้
- ค. เมื่อมีอาการท้องเสียไม่จำเป็นต้องใช้ยานี้ทุกครั้ง
- ง. ถูกทุกข้อ

๑๐ ข้อควรระวังในการใช้ยาอะม็อกซิซิลินข้อใดถูกต้อง

- ก. เมื่อมีอาการเจ็บป่วยสามารถหาซื้อยาปฏิชีวนะชนิดนี้ได้ที่ร้านชำ
- ข. เมื่อแพ้ยาในกลุ่มเพนนิซิลิน อาจแพ้ยารายการนี้ได้
- ค. ยานี้เป็นข้อยกเว้นเดียวที่ไม่มีปัญหาเรื่องการดื้อยา
- ง. เฉพาะข้อ ข และ ค ถูก

ส่วนที่ ๓ ทักษะคิดและพฤติกรรมการใช้ยาในชุมชน

๓.๑ พฤติกรรมใช้ยาบรรเทาอาการปวดตามข้อและกล้ามเนื้อในชุมชน

1. เมื่อมีอาการปวดกล้ามเนื้อและปวดข้อ ท่านเคยทำการรักษาหรือไม่

( ) เคย (ข้ามไปตอบข้อ 3)

( ) ไม่เคย

2. อะไรเป็นสาเหตุที่ทำให้ตัดสินใจว่าไม่ต้องรักษา (ตอบได้มากกว่า 1 ข้อ)

- ( ) เคยมีอาการปวดแล้วหายได้เอง
- ( ) เชื่อว่าอาการปวดจะหายได้เองหากหยุดทำงานหรือได้พัก
- ( ) ไม่ต้องการสิ้นเปลืองค่ารักษา
- ( ) อื่นๆ ระบุ \_\_\_\_\_

3. ถ้าท่านเคยทำการรักษา ท่านเลือกใช้วิธีการใดบ้าง (ตอบได้มากกว่า 1 ข้อ โดยเรียงลำดับ 1

หรือ 2 ส่วนวิธีการอื่นๆให้ระบุโดยไม่ต้องจัดอันดับ)

- ( ) กินยาสมุนไพร
- ( ) ซื้อยากินเองจาก ( ) ร้านขายยา ได้ยาชื่อ..... ( ) ร้านชำ ได้ยาชื่อ.....
- ( ) รับบริการการแพทย์ทางเลือก
- ( ) นวดแผนโบราณ ( ) ฝังเข็ม ( ) หมอพื้นบ้าน ระบุวิธีการรักษา \_\_\_\_\_
- ( ) ไปรับบริการที่ ( ) สถานีอนามัย ( ) โรงพยาบาล ( ) คลินิก
- ( ) ไสยศาสตร์ หมอผี
- ( ) อื่นๆ ระบุ \_\_\_\_\_

4. เหตุผลที่ตัดสินใจเลือกใช้วิธีการดังกล่าวรักษาเป็นอันดับแรก

- ( ) จากประสบการณ์ในอดีต ได้ผลดี
- ( ) เพื่อนบ้าน /ญาติแนะนำ
- ( ) ค่าใช้จ่ายในการรักษาไม่แพง
- ( ) ร้านค้าแนะนำ (ร้ายขายของในหมู่บ้าน)
- ( ) การมีบัตรสิทธิลดหย่อนค่ารักษาพยาบาล / เบิกเงินคืนได้

( ) เชื้อโคมัยณาที่ได้รับทราบผ่าน ( ) โทรทัศน์ ( ) วิทยุ ( ) หนังสือพิมพ์

5. ผลจากการรักษาดังกล่าวทำให้อาการปวดของท่าน

( ) หายขาด

( ) ทุเลา

( ) เหมือนเดิม

( ) เลวลง

6. ความพึงพอใจกับวิธีการรักษาที่ท่านเลือกใช้ในการรักษา

( ) พอใจมาก เพราะ.....

( ) พอใจปานกลาง เพราะ.....

( ) พอใจเล็กน้อย เพราะ.....

( ) ไม่พอใจเลย เพราะ.....

7. ท่านเคยใช้ยากลุ่มด้านการอักเสบที่มีไซสเตียรอยด์ แก่ปวดเมื่อยบ่อยมากน้อยเพียงใด

( ) ใช้ทุกวัน

( ) ไม่สม่ำเสมอ ใช้เมื่อมีอาการหรือตามฤดูกาลทำงานโดยมีการใช้ประมาณ

( ) สัปดาห์ละ 2-3 ครั้ง สัปดาห์ละ 1 ครั้ง ( ) เดือนละครั้ง ( ) 2-3 เดือนครั้ง

8. ภายใน 1 เดือนที่ผ่านมา ท่านยังใช้ยากลุ่มด้านการอักเสบที่มีไซสเตียรอยด์ อยู่หรือไม่

( ) ใช่

( ) ไม่ได้ใช้ เพราะ

( ) เกิดอาการข้างเคียง ไปรบกวน.....

( ) อาการไม่ดีขึ้น

รับประทานว่ามีอันตราย เลขกลัวไม่กล้าใช้

มีทางเลือกในการรักษาอื่นๆ โปรดระบุ \_\_\_\_\_

9. ท่านได้ยากกลุ่มด้านการอักเสบที่มีไซสเตรอยด์ แก้วปวดเมื่อยมาจากไหน

ร้านชำ ในหมู่บ้าน

ร้านขายยา ในอำเภอ       ในตัวจังหวัด       อื่นๆระบุ.....

รถเร่

ญาติ/ เพื่อนบ้าน

ตัวแทนที่ร้านค้าส่งหรือบริษัทให้มาเสนอขายส่งโดยตรงในชุมชน

อื่นๆ ระบุ \_\_\_\_\_

10. ท่านเคยทราบมาก่อนหรือไม่ว่ายากกลุ่มด้านการอักเสบที่มีไซสเตรอยด์ มีอันตราย

ไม่ทราบ (ข้ามไปตอบข้อ 12)

ทราบ อันตราย ได้แก่ \_\_\_\_\_

11. ท่านได้ข้อมูลอันตรายของยากกลุ่มด้านการอักเสบที่มีไซสเตรอยด์ มาจากไหน

อสม.

เจ้าหน้าที่สาธารณสุข ที่       สถานีอนามัย       โรงพยาบาล

สื่อโฆษณา       โทรทัศน์       วิทยู       หนังสือพิมพ์       แผ่นพับ

เพื่อนบ้าน/ ญาติ

อื่นๆ ระบุ \_\_\_\_\_

12. เหตุผลในการตัดสินใจที่ทำให้ท่านเลือกใช้ยาในกลุ่มด้านการอักเสบที่มีไซสเตรอยด์ ในการรักษา (ตอบได้มากกว่า 1 ข้อ เรียงลำดับ 1-2 ตามเหตุผลที่คิดว่าสำคัญที่สุด)

- ( ) สะดวก หาซื้อได้ง่าย
- ( ) มีประสบการณ์ในการใช้มาก่อน
- ( ) เพื่อนบ้าน / ญาติ แนะนำ ว่าดี
- ( ) ร้านค้าแนะนำ
- ( ) ไม่ประทับใจในบริการของรัฐ เสียเวลา ราคาแพง
- ( ) ห้างไกลสถานบริการของรัฐ
- ( ) ข้อมูลจริงใจจากสื่อโฆษณา
- ( ) อื่นๆ \_\_\_\_\_

13. ความพึงพอใจในการใช้ยาในกลุ่มด้านการอักเสบที่มีไซสเตรอยด์

- ( ) ใช้ง่ายหายเร็ว
- ( ) ประหยัดเวลา
- ( ) ประหยัดเงิน
- ( ) ไม่มีผลข้างเคียง
- ( ) อื่นๆ ระบุ \_\_\_\_\_

14. ท่านคิดว่าในอนาคต เมื่อมีอาการปวดเมื่อยกล้ามเนื้อ ท่านจะใช้ยา กลุ่มด้านการอักเสบที่มีไซสเตรอยด์ ด้วยตัวเองจากร้านชำหรือไม่

- ( ) ใช่ เนื่องจาก
  - ( ) สะดวก หาจ่าย ( ) หายเร็ว ( ) ประหยัดเวลา ( ) ประหยัดเงิน ( ) อื่นๆระบุ.....
- ( ) ใช้น้อยลงเนื่องจาก ( ) ทราบผลข้างเคียง ( ) กลัวเกิดอันตรายจากยา

( ) อื่นๆ ระบุ.....

( ) ไม่ใช่ เนื่องจาก

( ) ทราบอันตราย

( ) สามารถรับบริการที่สถานีนอนามัย / โรงพยาบาลได้

( ) กลัวเกิดอันตรายจากยา

( ) มีทางเลือกในการรักษาหรือดูแลโดยวิธีอื่น

( ) อื่นๆ ระบุ \_\_\_\_\_

### ตอนที่ ๓.๒ พฤติกรรมการใช้ยาปฏิชีวนะ หรือยาฆ่าเชื้อแบคทีเรีย

1. เมื่อมีอาการเจ็บคอ เป็น ไข้ หรือไม่สบาย ปวดบริเวณท่อน้อย หรือกล้ามเนื้อช่วงบริเวณหลัง ค้างค้ำว ท่านเคยทำการรักษาหรือไม่

( ) เคย (ข้ามไปตอบข้อ 3) ( ) ไม่เคย (ตอบข้อ 2 และหยุดสัมภาษณ์ตอนนี้)

2. อะไรเป็นสาเหตุที่ทำให้ตัดสินใจว่าไม่ต้องรักษา (ตอบได้มากกว่า 1 ข้อ)

( ) เคยมีอาการแล้วหายได้เอง

( ) เชื่อว่าอาการจะหายได้เองหากหยุดทำงานหรือพัก

( ) ไม่อยากสิ้นเปลืองค่ารักษา

( ) อื่นๆ ระบุ \_\_\_\_\_

3. ถ้าท่านเคยทำการรักษา ท่านเลือกใช้วิธีการใดบ้าง (ตอบได้มากกว่า 1 ข้อ โดยเรียงลำดับ 1

หรือ 2 ส่วนวิธีการอื่นๆ ให้ระบุโดยไม่ต้องจัดอันดับ)

( ) กินยาสมุนไพร

( ) ซื้อยากินเองจาก ( ) ร้านขายยา ได้ยี่ห้อ..... ( ) ร้านชำ ได้ยี่ห้อ.....

( ) รับบริการการแพทย์ทางเลือก

( ) นวดแผนโบราณ ( ) ฝังเข็ม ( ) หมอพื้นบ้าน ระบุวิธีการรักษา \_\_\_\_\_

( ) ไปรับบริการที่ ( ) สถานีอนามัย ( ) โรงพยาบาล ( ) คลินิก

( ) ไลยศาสตร์ หมอผี

( ) อื่นๆ ระบุ \_\_\_\_\_

4. เหตุผลที่ตัดสินใจเลือกใช้วิธีการดังกล่าวรักษาเป็นอันดับแรก

( ) จากประสบการณ์ในอดีต ได้ผลดี

( ) เพื่อนบ้าน /ญาติแนะนำ

( ) ค่าใช้จ่ายในการรักษาที่ยอมรับได้

( ) ร้านค้าแนะนำ (ร้ายขายของในหมู่บ้าน)

( ) การมีบัตรสิทธิลดหย่อนค่ารักษาพยาบาล / เบิกเงินคืนได้

( ) สื่อโฆษณา โทรทัศน์ ( ) วิทยุ ( ) หนังสือพิมพ์

5. ผลจากการรักษาดังกล่าวทำให้อาการเจ็บป่วย ไข้ ไม่สบาย เจ็บคอ หรือท้องเสีย ปวดหัววง บริเวณท้องน้อย และกล้ามเนื้อด้านหลัง ของท่าน

( ) หายขาด ( ) ทุเลา ( ) เหมือนเดิม ( ) เลวลง

6. ความพึงพอใจกับวิธีการรักษาที่ท่านเลือกใช้ในการรักษา

( ) พอใจมาก เพราะ.....

( ) พอใจปานกลาง เพราะ.....

( ) พอใจเล็กน้อย เพราะ.....

( ) ไม่พอใจเลย เพราะ.....

7. ท่านเคยใช้ยาแก้อักเสบฆ่าเชื้อ (ยาปฏิชีวนะ) แก่ปวดเมื่อยบ่อยมากน้อยเพียงใด

( ) ใช้ทุกวัน

- ( ) ไม่สม่ำเสมอ ใช้เมื่อมีอาการหรือตามฤดูกาลทำงานโดยมีการใช้ประมาณ  
 ( ) สัปดาห์ละ 2-3 ครั้ง ( ) สัปดาห์ละ 1 ครั้ง ( ) เดือนละครั้ง ( ) 2-3 เดือนครั้ง

8. ปัจจุบันท่านยังใช้ยาแก้อักเสบฆ่าเชื้อ (ยาปฏิชีวนะ) อยู่หรือไม่ (ภายใน 1 เดือนที่ผ่านมา)

- ( ) ใช่  
 ( ) ไม่ได้ใช้ เพราะ  
 ( ) เกิดอาการข้างเคียง ไปรกระบุ.....  
 ( ) อาการไม่ดีขึ้น  
 ( ) รับประทานว่ามีอันตราย เลขกลัวไม่กล้าใช้  
 ( ) มีทางเลือกในการรักษาอื่นๆ ไปรกระบุ \_\_\_\_\_

9. ท่านได้ยาแก้อักเสบฆ่าเชื้อ (ยาปฏิชีวนะ) มาจากไหน

- ( ) ร้านชำ ในหมู่บ้าน  
 ( ) ร้านขายยา ในอำเภอ ( ) ในตัวจังหวัด ( ) อื่นๆระบุ.....  
 ( ) รถเร่ ( )ญาติ/เพื่อนบ้าน  
 ( ) ตัวแทนที่ร้านค้าส่งหรือบริษัทให้มาเสนอขายส่ง โดยตรงในชุมชน  
 ( ) อื่นๆ ระบุ \_\_\_\_\_

10. ท่านเคยทราบมาก่อนหรือไม่ว่ายาแก้อักเสบฆ่าเชื้อ (ยาปฏิชีวนะ) มีอันตราย

- ( ) ไม่ทราบ (ข้ามไปตอบข้อ 12)  
 ( ) ทราบ ระบุว่าอันตรายอย่างไร \_\_\_\_\_

11. ท่านได้ข้อมูลอันตรายของยาแก้อักเสบฆ่าเชื้อ (ยาปฏิชีวนะ) มาจากไหน

- ( ) อสม.

- ( )เจ้าหน้าที่สาธารณสุข ที่ ( )สถานีนอนมัย ( )โรงพยาบาล  
 ( )สื่อโฆษณา ( )โทรทัศน์( )วิทยุ ( )หนังสือพิมพ์( )แผ่นพับ  
 ( )เพื่อนบ้าน/ญาติ ( )อื่นๆ ระบุ \_\_\_\_\_

12. เหตุผลในการตัดสินใจที่ทำให้ท่านเลือกใช้ยาแก้แอสมาเซีย (ยาปฏิชีวนะ) ในการรักษา  
 (ตอบได้มากกว่า 1 ข้อ เรียง

ลำดับ 1-2 ตามเหตุผลที่คิดว่าสำคัญที่สุด)

- ( )สะดวก หาซื้อได้ง่าย  
 ( )มีประสบการณ์ในการใช้มาก่อน  
 ( )เพื่อนบ้าน / ญาติ แนะนำ ว่าดี  
 ( )ร้านค้าแนะนำ  
 ( )ไม่ประทับใจในบริการของรัฐ เสียเวลา ราคาแพง  
 ( )ห่างไกลสถานบริการของรัฐ  
 ( )ข้อมูลจูงใจจากสื่อโฆษณา  
 ( )อื่นๆ \_\_\_\_\_

13. ความพึงพอใจในการใช้ยาแก้แอสมาเซีย (ยาปฏิชีวนะ)

- ( )ใช้ง่ายหายเร็ว( )ประหยัดเวลา( )ประหยัดเงิน( )ไม่มีผลข้างเคียง  
 ( )อื่นๆ ระบุ \_\_\_\_\_

14. ท่านคิดว่าในอนาคต เมื่อมีอาการปวดเมื่อยกล้ามเนื้อ ท่านจะใช้ยา กลุ่มด้านการอักเสบที่มีใช้  
 สเตียรอยด์ ด้วยตัวเองจากร้านชำหรือไม่

- ( )ใช่ เนื่องจาก  
 ( )สะดวก หาง่าย ( )หายเร็ว ประหยัดเวลา( )ประหยัดเงิน ( )อื่นๆระบุ.....

( ) ใช้น้อยลงเนื่องจาก ( ) ทราบผลข้างเคียง ( ) กลัวเกิดอันตรายจากยา ( ) อื่นๆ ระบุ  
.....

( ) ไม่ใช่ เนื่องจาก

( ) ทราบอันตราย

( ) สามารถรับบริการที่สถานีนานามัย / โรงพยาบาลได้

( ) กลัวเกิดอันตรายจากยา

( ) มีทางเลือกในการรักษาหรือดูแลโดยวิธีอื่น

( ) อื่นๆ ระบุ \_\_\_\_\_

### ๓.๓ ความรู้และทัศนคติต่อการจำหน่ายยา

15. ท่านคิดว่ากฎหมายอนุญาตให้มีการขายยาชุดในร้านชำหรือรถเร่หรือไม่

( ) อนุญาต (หยุดสัมภาษณ์ตอนนี้ และข้ามไปสัมภาษณ์ข้อ 17)

( ) ไม่อนุญาต

( ) ไม่ทราบ

16. เหตุผลที่ภาครัฐห้ามขายยาอันตราย (ยาปฏิชีวนะ, ยาแก้ปวดต้านอักเสบที่มีไซสเดียรอยด์) ในร้านชำ (ตอบได้มากกว่า 1 ข้อ)

( ) ไม่ทราบ

( ) เป็นยาที่มีอันตรายต่อผู้บริโภคหากใช้ไม่ถูกต้อง

( ) เป็นการขายยาโดยที่ไม่ได้รับอนุญาต

( ) อื่นๆ \_\_\_\_\_

17. ข้อเสนอแนะต่อหน่วยงานรัฐที่จะทำให้ประชาชนมีการใช้ยาที่เหมาะสม ปลอดภัย

.....  
.....

**APPENDIX C:**  
**IN APPROPRIATE DRUG AVAILABLE OF THE QUESTIONNAIRE**

### Inappropriate Drug Available in Community Survey

**In Study of “Program development and evaluation of “OR-YOR-NOI PROJECT”  
TO PROMOTE APPROPRIATE DRUG USE IN COMMUNITY,  
KHAMKHUENKAEW DISTRICT, YASOTHORN PROVINCE.**

Name .....Sure  
name.....Age.....Years

Education.....Grocery or Shop name.....

Village name.....House number .....Village  
number.....Tambol Lumpuk Khamkhuenkaew District, Yasothron

Drug Items (Generic name)	Trade name/ Common know	Available	Not Available	Dosage from/strength / characteristic	Clinical sign/ objective evidence/ reason to sold
Acetyl salicylic acid					
Diclofenac					
Piroxicam					
Ibuprofen					
Tetracyclin					
Penicillin					

Drug Items (Generic name)	Trade name/ Common know	Available	Not Available	Dosage from/strength / characteristic	Clinical sign/ objective evidence/ reason to sold
Erythromycin					
Chloramphenical					
Cotrimoxazole					
Amoxicillin					

**APPENDIX D:**  
**TABLE OF KNOWLEDGE SCORE OF STUDENT AND FAMILY**  
**MEMBER'S**

student ID	Before			After			school
	Part I	Part II	Total	Part I	Part II	Total	
61	7	5	<b>12</b>	10	10	<b>20</b>	Anuban
62	7	5	<b>12</b>	10	9	<b>19</b>	Anuban
63	7	3	<b>10</b>	7	7	<b>14</b>	Anuban
64	6	6	<b>12</b>	9	9	<b>18</b>	Anuban
65	6	7	<b>13</b>	10	10	<b>20</b>	Anuban
66	6	5	<b>11</b>	8	8	<b>16</b>	Anuban
67	6	6	<b>12</b>	9	8	<b>17</b>	Anuban
68	6	6	<b>12</b>	9	8	<b>17</b>	Anuban
69	5	6	<b>11</b>	8	7	<b>15</b>	Anuban
70	5	7	<b>12</b>	8	8	<b>16</b>	Anuban
71	5	5	<b>10</b>	7	7	<b>14</b>	Anuban
72	5	6	<b>11</b>	8	7	<b>15</b>	Anuban
73	5	7	<b>12</b>	8	8	<b>16</b>	Anuban
74	5	5	<b>10</b>	7	7	<b>14</b>	Anuban
75	5	6	<b>11</b>	8	7	<b>15</b>	Anuban
76	4	4	<b>8</b>	6	6	<b>12</b>	Anuban
77	4	7	<b>11</b>	8	7	<b>15</b>	Anuban
78	4	6	<b>10</b>	7	7	<b>14</b>	Anuban
79	4	5	<b>9</b>	7	6	<b>13</b>	Anuban
80	4	5	<b>9</b>	5	6	<b>11</b>	Anuban
81	4	3	<b>7</b>	5	5	<b>10</b>	Anuban
82	3	4	<b>7</b>	5	3	<b>8</b>	Anuban
83	3	6	<b>9</b>	6	6	<b>12</b>	Anuban
84	3	5	<b>8</b>	5	5	<b>10</b>	Anuban
85	3	6	<b>9</b>	5	6	<b>11</b>	Anuban
86	3	6	<b>9</b>	5	6	<b>11</b>	Anuban
87	3	7	<b>10</b>	7	6	<b>13</b>	Anuban
88	3	6	<b>9</b>	5	6	<b>11</b>	Anuban
89	3	6	<b>9</b>	6	6	<b>12</b>	Anuban
90	3	7	<b>10</b>	5	6	<b>11</b>	Anuban
Anuban-average			<b>10.17</b>			<b>14.00</b>	
Anuban-STD			<b>1.60</b>			<b>3.07</b>	
1	9	6	<b>15</b>	10	10	<b>20</b>	KC
2	9	7	<b>16</b>	10	10	<b>20</b>	KC
3	9	7	<b>16</b>	10	10	<b>20</b>	KC
4	8	6	<b>14</b>	10	10	<b>20</b>	KC
5	8	6	<b>14</b>	10	9	<b>19</b>	KC
6	8	6	<b>14</b>	10	9	<b>19</b>	KC
7	8	5	<b>13</b>	9	9	<b>18</b>	KC
8	8	5	<b>13</b>	9	9	<b>18</b>	KC
9	8	5	<b>13</b>	9	9	<b>18</b>	KC

10	8	5	<b>13</b>	9	8	<b>17</b>	KC
11	7	6	<b>13</b>	9	8	<b>17</b>	KC
12	7	6	<b>13</b>	9	8	<b>17</b>	KC
13	7	7	<b>14</b>	9	9	<b>18</b>	KC
14	7	6	<b>13</b>	8	8	<b>16</b>	KC
15	7	6	<b>13</b>	8	8	<b>16</b>	KC
16	7	6	<b>13</b>	8	8	<b>16</b>	KC
17	7	6	<b>13</b>	8	8	<b>16</b>	KC
18	7	5	<b>12</b>	8	7	<b>15</b>	KC
19	6	5	<b>11</b>	7	7	<b>14</b>	KC
20	6	5	<b>11</b>	7	7	<b>14</b>	KC
21	6	4	<b>10</b>	7	7	<b>14</b>	KC
22	6	8	<b>14</b>	9	9	<b>18</b>	KC
23	6	3	<b>9</b>	6	6	<b>12</b>	KC
24	6	4	<b>10</b>	7	7	<b>14</b>	KC
25	6	5	<b>11</b>	7	7	<b>14</b>	KC
26	6	4	<b>10</b>	7	7	<b>14</b>	KC
27	6	7	<b>13</b>	8	8	<b>16</b>	KC
28	6	7	<b>13</b>	8	7	<b>15</b>	KC
29	6	6	<b>12</b>	8	7	<b>15</b>	KC
30	6	7	<b>13</b>	8	7	<b>15</b>	KC
31	6	6	<b>12</b>	8	7	<b>15</b>	KC
32	5	5	<b>10</b>	7	7	<b>14</b>	KC
33	5	5	<b>10</b>	7	6	<b>13</b>	KC
34	5	5	<b>10</b>	7	6	<b>13</b>	KC
35	5	3	<b>8</b>	6	5	<b>11</b>	KC
36	5	4	<b>9</b>	6	6	<b>12</b>	KC
37	5	3	<b>8</b>	6	6	<b>12</b>	KC
38	5	4	<b>9</b>	6	6	<b>12</b>	KC
39	5	6	<b>11</b>	7	7	<b>14</b>	KC
40	5	5	<b>10</b>	7	6	<b>13</b>	KC
41	5	5	<b>10</b>	7	6	<b>13</b>	KC
42	5	6	<b>11</b>	7	7	<b>14</b>	KC
43	5	7	<b>12</b>	8	7	<b>15</b>	KC
44	5	5	<b>10</b>	6	6	<b>12</b>	KC
45	5	4	<b>9</b>	6	6	<b>12</b>	KC
46	5	3	<b>8</b>	6	4	<b>10</b>	KC
47	5	3	<b>8</b>	6	6	<b>12</b>	KC
48	5	2	<b>7</b>	6	5	<b>11</b>	KC
49	4	2	<b>6</b>	5	3	<b>8</b>	KC
50	4	7	<b>11</b>	7	7	<b>14</b>	KC
51	4	2	<b>6</b>	5	3	<b>8</b>	KC
52	4	7	<b>11</b>	7	7	<b>14</b>	KC
53	4	5	<b>9</b>	6	6	<b>12</b>	KC
54	4	7	<b>11</b>	7	7	<b>14</b>	KC
55	4	5	<b>9</b>	6	6	<b>12</b>	KC

56	4	5	<b>9</b>	6	6	<b>12</b>	KC
57	4	3	<b>7</b>	6	5	<b>11</b>	KC
58	4	4	<b>8</b>	6	6	<b>12</b>	KC
59	4	6	<b>10</b>	6	6	<b>12</b>	KC
60	3	4	<b>7</b>	6	4	<b>10</b>	KC
KC- average			<b>10.97</b>			<b>14.37</b>	
KC- STD			<b>2.43</b>			<b>2.92</b>	
121	9	3	<b>12</b>	9	8	<b>17</b>	Kklang
122	8	4	<b>12</b>	9	8	<b>17</b>	Kklang
123	8	8	<b>16</b>	10	10	<b>20</b>	Kklang
124	7	5	<b>12</b>	8	8	<b>16</b>	Kklang
125	7	6	<b>13</b>	9	9	<b>18</b>	Kklang
126	7	7	<b>14</b>	9	9	<b>18</b>	Kklang
127	7	5	<b>12</b>	8	8	<b>16</b>	Kklang
128	6	4	<b>10</b>	7	7	<b>14</b>	Kklang
129	6	7	<b>13</b>	9	8	<b>17</b>	Kklang
130	6	5	<b>11</b>	8	7	<b>15</b>	Kklang
131	6	3	<b>9</b>	6	6	<b>12</b>	Kklang
132	6	5	<b>11</b>	8	8	<b>16</b>	Kklang
133	6	6	<b>12</b>	8	8	<b>16</b>	Kklang
134	6	8	<b>14</b>	9	9	<b>18</b>	Kklang
135	5	6	<b>11</b>	8	7	<b>15</b>	Kklang
136	5	3	<b>8</b>	6	4	<b>10</b>	Kklang
137	5	5	<b>10</b>	7	7	<b>14</b>	Kklang
138	5	5	<b>10</b>	7	7	<b>14</b>	Kklang
139	5	6	<b>11</b>	7	7	<b>14</b>	Kklang
140	5	6	<b>11</b>	7	7	<b>14</b>	Kklang
141	7	6	<b>13</b>	7	7	<b>14</b>	Kklang
142	5	6	<b>11</b>	7	7	<b>14</b>	Kklang
143	4	6	<b>10</b>	7	7	<b>14</b>	Kklang
144	4	7	<b>11</b>	7	7	<b>14</b>	Kklang
145	3	6	<b>9</b>	6	8	<b>14</b>	Kklang
146	3	7	<b>10</b>	5	6	<b>11</b>	Kklang
147	2	5	<b>7</b>	6	6	<b>12</b>	Kklang
148	2	6	<b>8</b>	6	8	<b>14</b>	Kklang
149	2	7	<b>9</b>	6	4	<b>10</b>	Kklang
150	2	6	<b>8</b>	5	7	<b>12</b>	Kklang
KKlang- average			<b>10.93</b>			<b>14.67</b>	
KKlang- STD			<b>2.03</b>			<b>2.41</b>	
91	8	6	<b>14</b>	9	8	<b>17</b>	LF
92	8	5	<b>13</b>	9	8	<b>17</b>	LF
93	7	7	<b>14</b>	9	8	<b>17</b>	LF

94	7	6	<b>13</b>	9	8	<b>17</b>	LF
95	7	5	<b>12</b>	8	7	<b>15</b>	LF
96	7	6	<b>13</b>	9	8	<b>17</b>	LF
97	7	3	<b>10</b>	6	5	<b>11</b>	LF
98	7	7	<b>14</b>	9	8	<b>17</b>	LF
99	6	4	<b>10</b>	7	6	<b>13</b>	LF
100	6	5	<b>11</b>	8	6	<b>14</b>	LF
101	6	6	<b>12</b>	8	7	<b>15</b>	LF
102	6	3	<b>9</b>	6	5	<b>11</b>	LF
103	6	5	<b>11</b>	8	7	<b>15</b>	LF
104	6	7	<b>13</b>	8	7	<b>15</b>	LF
105	5	5	<b>10</b>	5	7	<b>12</b>	LF
106	5	6	<b>11</b>	7	7	<b>14</b>	LF
107	5	4	<b>9</b>	6	6	<b>12</b>	LF
108	5	5	<b>10</b>	5	6	<b>11</b>	LF
109	5	6	<b>11</b>	6	7	<b>13</b>	LF
110	5	6	<b>11</b>	7	7	<b>14</b>	LF
111	5	5	<b>10</b>	6	7	<b>13</b>	LF
112	5	5	<b>10</b>	7	6	<b>13</b>	LF
113	4	6	<b>10</b>	6	6	<b>12</b>	LF
114	4	3	<b>7</b>	6	5	<b>11</b>	LF
115	4	3	<b>7</b>	6	5	<b>11</b>	LF
116	4	2	<b>6</b>	6	5	<b>11</b>	LF
117	4	2	<b>6</b>	6	5	<b>11</b>	LF
118	3	1	<b>4</b>	6	3	<b>9</b>	LF
119	3	6	<b>9</b>	4	6	<b>10</b>	LF
120	2	3	<b>5</b>	6	4	<b>10</b>	LF
LF-Average			10.17			13.27	
LF-STD			2.69			2.48	
Total - Average	4.94	4.97	9.91	6.74	6.31	13.06	
Total - STD	1.58	1.41	2.24	1.41	1.47	2.76	

family ID	Before			After			school
	Part I	Part II	Total	Part I	Part II	Total	
1	8	6	<b>14</b>	9	6	<b>15</b>	KC
2	8	7	<b>15</b>	10	7	<b>17</b>	KC
3	8	5	<b>13</b>	7	6	<b>13</b>	KC
4	6	5	<b>11</b>	7	3	<b>10</b>	KC
5	8	5	<b>13</b>	8	7	<b>15</b>	KC
6	7	4	<b>11</b>	7	6	<b>13</b>	KC
7	7	6	<b>13</b>	9	6	<b>15</b>	KC
8	7	8	<b>15</b>	10	7	<b>17</b>	KC
9	7	5	<b>12</b>	7	6	<b>13</b>	KC
10	7	6	<b>13</b>	5	4	<b>9</b>	KC
11	7	4	<b>11</b>	6	8	<b>14</b>	KC
12	5	5	<b>10</b>	7	6	<b>13</b>	KC
13	5	6	<b>11</b>	8	8	<b>16</b>	KC
14	7	6	<b>13</b>	6	4	<b>10</b>	KC
15	7	7	<b>14</b>	6	6	<b>12</b>	KC
16	6	5	<b>11</b>	6	6	<b>12</b>	KC
17	7	4	<b>11</b>	6	7	<b>13</b>	KC
18	7	6	<b>13</b>	7	5	<b>12</b>	KC
19	7	4	<b>11</b>	6	6	<b>12</b>	KC
20	7	5	<b>12</b>	6	7	<b>13</b>	KC
21	6	2	<b>8</b>	4	4	<b>8</b>	KC
22	6	8	<b>14</b>	8	8	<b>16</b>	KC
23	6	7	<b>13</b>	3	6	<b>9</b>	KC
24	8	6	<b>14</b>	7	7	<b>14</b>	KC
25	5	5	<b>10</b>	5	5	<b>10</b>	KC
26	6	5	<b>11</b>	6	5	<b>11</b>	KC
27	6	4	<b>10</b>	6	4	<b>10</b>	KC
28	6	6	<b>12</b>	7	8	<b>15</b>	KC
29	7	5	<b>12</b>	6	5	<b>11</b>	KC
30	6	4	<b>10</b>	4	3	<b>7</b>	KC
31	6	4	<b>10</b>	5	4	<b>9</b>	KC
32	6	6	<b>12</b>	5	5	<b>10</b>	KC
33	6	5	<b>11</b>	7	5	<b>12</b>	KC
34	6	5	<b>11</b>	6	4	<b>10</b>	KC
35	6	7	<b>13</b>	9	7	<b>16</b>	KC
36	6	5	<b>11</b>	8	4	<b>12</b>	KC
37	6	3	<b>9</b>	7	8	<b>15</b>	KC
38	6	4	<b>10</b>	6	5	<b>11</b>	KC
39	6	6	<b>12</b>	6	4	<b>10</b>	KC
40	7	5	<b>12</b>	7	7	<b>14</b>	KC
41	7	5	<b>12</b>	8	5	<b>13</b>	KC
42	6	6	<b>12</b>	6	1	<b>7</b>	KC
43	5	3	<b>8</b>	6	6	<b>12</b>	KC
44	5	4	<b>9</b>	7	7	<b>14</b>	KC

45	7	5	<b>12</b>	7	6	<b>13</b>	KC
46	4	3	<b>7</b>	7	6	<b>13</b>	KC
47	4	4	<b>8</b>	6	6	<b>12</b>	KC
48	7	6	<b>13</b>	6	6	<b>12</b>	KC
49	4	5	<b>9</b>	6	6	<b>12</b>	KC
50	7	5	<b>12</b>	7	6	<b>13</b>	KC
51	8	6	<b>14</b>	8	5	<b>13</b>	KC
52	6	5	<b>11</b>	6	6	<b>12</b>	KC
53	8	7	<b>15</b>	8	4	<b>12</b>	KC
54	7	5	<b>12</b>	5	4	<b>9</b>	KC
55	6	6	<b>12</b>	6	6	<b>12</b>	KC
56	7	5	<b>12</b>	5	8	<b>13</b>	KC
57	7	5	<b>12</b>	6	6	<b>12</b>	KC
58	8	6	<b>14</b>	6	6	<b>12</b>	KC
59	1	4	<b>5</b>	6	7	<b>13</b>	KC
60	6	4	<b>10</b>	6	5	<b>11</b>	KC
KC- average			<b>11.52</b>			<b>12.23</b>	
KC- average			<b>2.00</b>			<b>2.27</b>	
61	7	6	<b>13</b>	6	7	<b>13</b>	Anuban
62	6	6	<b>12</b>	7	6	<b>13</b>	Anuban
63	5	6	<b>11</b>	7	7	<b>14</b>	Anuban
64	7	4	<b>11</b>	5	6	<b>11</b>	Anuban
65	5	4	<b>9</b>	6	4	<b>10</b>	Anuban
66	6	8	<b>14</b>	9	6	<b>15</b>	Anuban
67	8	5	<b>13</b>	7	8	<b>15</b>	Anuban
68	5	2	<b>7</b>	6	5	<b>11</b>	Anuban
69	6	4	<b>10</b>	6	7	<b>13</b>	Anuban
70	5	5	<b>10</b>	8	8	<b>16</b>	Anuban
71	4	4	<b>8</b>	6	7	<b>13</b>	Anuban
72	5	3	<b>8</b>	7	4	<b>11</b>	Anuban
73	8	6	<b>14</b>	7	8	<b>15</b>	Anuban
74	6	2	<b>8</b>	6	7	<b>13</b>	Anuban
75	6	5	<b>11</b>	6	6	<b>12</b>	Anuban
76	6	5	<b>11</b>	5	7	<b>12</b>	Anuban
77	7	6	<b>13</b>	8	7	<b>15</b>	Anuban
78	7	6	<b>13</b>	7	6	<b>13</b>	Anuban
79	7	6	<b>13</b>	7	7	<b>14</b>	Anuban
80	7	6	<b>13</b>	5	7	<b>12</b>	Anuban
81	6	5	<b>11</b>	6	5	<b>11</b>	Anuban
82	4	2	<b>6</b>	6	6	<b>12</b>	Anuban
83	5	6	<b>11</b>	6	4	<b>10</b>	Anuban
84	3	3	<b>6</b>	7	5	<b>12</b>	Anuban
85	6	5	<b>11</b>	5	7	<b>12</b>	Anuban
86	6	6	<b>12</b>	8	6	<b>14</b>	Anuban

87	5	7	<b>12</b>	6	6	<b>12</b>	Anuban
88	7	5	<b>12</b>	6	5	<b>11</b>	Anuban
89	5	5	<b>10</b>	7	6	<b>13</b>	Anuban
90	6	7	<b>13</b>	4	6	<b>10</b>	Anuban
Anuban- average			<b>10.87</b>			<b>12.60</b>	
Anuban- STD			<b>2.27</b>			<b>1.63</b>	
91	5	8	<b>13</b>	6	4	<b>10</b>	LF
92	6	5	<b>11</b>	4	7	<b>11</b>	LF
93	7	6	<b>13</b>	5	5	<b>10</b>	LF
94	5	5	<b>10</b>	8	6	<b>14</b>	LF
95	7	6	<b>13</b>	9	6	<b>15</b>	LF
96	6	6	<b>12</b>	6	6	<b>12</b>	LF
97	6	4	<b>10</b>	7	7	<b>14</b>	LF
98	7	4	<b>11</b>	6	4	<b>10</b>	LF
99	4	6	<b>10</b>	6	5	<b>11</b>	LF
100	8	5	<b>13</b>	5	5	<b>10</b>	LF
101	5	4	<b>9</b>	6	5	<b>11</b>	LF
102	6	5	<b>11</b>	6	6	<b>12</b>	LF
103	7	7	<b>14</b>	6	5	<b>11</b>	LF
104	5	3	<b>8</b>	5	8	<b>13</b>	LF
105	3	5	<b>8</b>	5	4	<b>9</b>	LF
106	7	5	<b>12</b>	7	9	<b>16</b>	LF
107	6	8	<b>14</b>	6	6	<b>12</b>	LF
108	4	3	<b>7</b>	8	6	<b>14</b>	LF
109	2	5	<b>7</b>	4	5	<b>9</b>	LF
110	6	6	<b>12</b>	8	7	<b>15</b>	LF
111	5	3	<b>8</b>	6	8	<b>14</b>	LF
112	8	5	<b>13</b>	8	4	<b>12</b>	LF
113	6	4	<b>10</b>	6	8	<b>14</b>	LF
114	5	1	<b>6</b>	7	6	<b>13</b>	LF
115	3	6	<b>9</b>	5	6	<b>11</b>	LF
116	5	2	<b>7</b>	4	5	<b>9</b>	LF
117	4	5	<b>9</b>	6	6	<b>12</b>	LF
118	3	2	<b>5</b>	7	6	<b>13</b>	LF
119	5	5	<b>10</b>	7	5	<b>12</b>	LF
120	6	8	<b>14</b>	8	7	<b>15</b>	LF
LF- average			<b>10.30</b>			<b>12.13</b>	
LF-STD			<b>2.55</b>			<b>1.98</b>	
121	6	6	<b>12</b>	6	3	<b>9</b>	Kklang
122	7	5	<b>12</b>	6	6	<b>12</b>	Kklang
123	5	3	<b>8</b>	4	5	<b>9</b>	Kklang
124	8	7	<b>15</b>	8	5	<b>13</b>	Kklang
125	5	4	<b>9</b>	5	6	<b>11</b>	Kklang

126	6	5	<b>11</b>	6	8	<b>14</b>	Kklang
127	9	5	<b>14</b>	9	8	<b>17</b>	Kklang
128	4	4	<b>8</b>	4	6	<b>10</b>	Kklang
129	2	3	<b>5</b>	5	5	<b>10</b>	Kklang
130	5	5	<b>10</b>	7	6	<b>13</b>	Kklang
131	6	7	<b>13</b>	6	5	<b>11</b>	Kklang
132	6	5	<b>11</b>	7	6	<b>13</b>	Kklang
133	6	6	<b>12</b>	7	6	<b>13</b>	Kklang
134	7	3	<b>10</b>	6	6	<b>12</b>	Kklang
135	5	3	<b>8</b>	6	6	<b>12</b>	Kklang
136	8	5	<b>13</b>	6	8	<b>14</b>	Kklang
137	6	3	<b>9</b>	8	5	<b>13</b>	Kklang
138	3	4	<b>7</b>	4	4	<b>8</b>	Kklang
139	7	5	<b>12</b>	7	5	<b>12</b>	Kklang
140	6	5	<b>11</b>	8	8	<b>16</b>	Kklang
141	5	6	<b>11</b>	7	5	<b>12</b>	Kklang
142	7	5	<b>12</b>	6	4	<b>10</b>	Kklang
143	8	6	<b>14</b>	5	6	<b>11</b>	Kklang
144	6	6	<b>12</b>	6	6	<b>12</b>	Kklang
145	5	5	<b>10</b>	8	7	<b>15</b>	Kklang
146	8	5	<b>13</b>	9	6	<b>15</b>	Kklang
147	7	6	<b>13</b>	6	6	<b>12</b>	Kklang
148	6	4	<b>10</b>	6	4	<b>10</b>	Kklang
149	7	6	<b>13</b>	5	6	<b>11</b>	Kklang
150	4	5	<b>9</b>	7	6	<b>13</b>	Kklang
KKlang-average			10.90			12.10	
KKlang-STD			2.31			2.09	
Total-average	5.66	4.97	10.63	6.26	5.81	12.07	
STD	1.37	1.37	2.26	1.28	1.31	2.05	

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