



การพัฒนาและประเมินโครงการ อย.น้อย เพื่อส่งเสริมการใช้ยาที่เหมาะสมในชุมชน

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



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กลุ่มงานเภสัชกรรมชุมชนและคุ้มครองผู้บริโภค¹
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บทคัดย่อ

ปัญหาการใช้ยาไม่เหมาะสมยังเป็นปัญหาในชุมชนต่างๆ ของอำเภอคำเขื่อนแก้ว กลุ่มนักเรียน อย.น้อย จึงได้มีการดำเนินโครงการและกิจกรรมต่างๆ เพื่อเพิ่มความปลอดภัยในด้านยา โดยการศึกษามีวัตถุประสงค์เพื่อพัฒนาและประเมินผลโปรแกรมของนักเรียน อย.น้อย ที่ออกแบบเพื่อส่งเสริมการใช้ยาที่เหมาะสมในชุมชน การศึกษาเป็นแบบกึ่งทดลองโดยใช้ Instructional System Design (ISD) Model และรูปแบบ “พี่สอนน้อง” เป็นเครื่องมือในการพัฒนากระบวนการและเสริมพลังในการพัฒนากิจกรรมของนักเรียน อย.น้อย โดยกลุ่มตัวอย่างที่ใช้ในการศึกษารั้งนี้ ประกอบด้วยนักเรียน อย.น้อย จำนวน 60 คน จากโรงเรียนมัธยมศึกษา 1 แห่ง และจำนวน 90 คน จากโรงเรียนประถมศึกษา 3 แห่ง พร้อมสมาชิกในครัวเรือนของนักเรียน อย.น้อย 150 คน และเจ้าของร้านจำนวน 50 คน จากร้านชา 50 แห่ง ทั้งนี้มีการใช้สถิติ ร้อยละ ค่าเฉลี่ยค่าเบี่ยงเบนมาตรฐาน และ paired t-test ในการวิเคราะห์ข้อมูล

กิจกรรมที่ใช้ในการศึกษานี้ดำเนินการในระยะเวลา 4 เดือน ระหว่างเดือนธันวาคม 2553 ถึงเดือนมีนาคม 2554 โดยการสำรวจเกี่ยวกับการใช้ยาที่ไม่เหมาะสมในชุมชนทั้งก่อนและหลังการดำเนินกิจกรรมที่ประกอบด้วย การประชาสัมพันธ์โดยการเดินรณรงค์ในโรงเรียน การประชาสัมพันธ์ผ่านวิทยุและหอกระจายข่าวในชุมชน ผ่านแผ่นพับ นวัตกรรมนิทาน 6 แผก และบันทึกความดี ทั้งนี้มีการวัดผลหลักในการศึกษา 3 ด้าน ด้านแรกเป็นการศึกษาการกระจายยาที่ไม่เหมาะสมในชุมชน โดยพบว่าความรู้ของเจ้าของร้านชาเพิ่มขึ้นจากการร้อยละ 25.0 เป็นร้อยละ 92.5 จำนวนร้านชาที่จำหน่ายยาที่ไม่เหมาะสมลดลงจากร้อยละ 68 เป็นร้อยละ 56 และค่าเฉลี่ยจำนวนรายการยาที่ไม่เหมาะสมในร้านชาลดลงจาก 8.25 เป็น 6.75 รายการ ด้านที่สองเป็นการประเมินองค์ความรู้ของสมาชิกในครัวเรือนของนักเรียน อย.น้อย ซึ่งพบว่าเพิ่มขึ้นจากร้อยละ 47.33 เป็นร้อยละ 67.33 ด้านสุดท้ายเป็นการประเมินความรู้และพฤติกรรมของกลุ่มตัวอย่างนักเรียน อย.น้อย ต่อการใช้ยาที่ไม่เหมาะสมซึ่งพบว่ากลุ่มตัวอย่างนักเรียน อย.น้อย มีค่าเฉลี่ยความรู้เพิ่มขึ้นจาก 9.91 เป็น 13.06 และกลุ่มตัวอย่างที่ซื้อยาปฏิชีวนะใช้เองลดลงจากร้อยละ 62 เป็นร้อยละ 2.67 นอกจากนี้ยังพบว่ากลุ่มตัวอย่างนักเรียน อย.น้อย ที่ไม่ตระหนักรักษาสุขภาพ ต่อการใช้ยาแก้ปวดและยาบรรเทาอาการปวดกล้ามเนื้อนั้น มีจำนวนลดลงจากร้อยละ 69.33 เป็นร้อยละ 26.67 การศึกษานี้จึงเป็นการสนับสนุนว่านักเรียน อย.น้อย สามารถเป็นกลุ่มสำคัญที่ช่วยส่งเสริมการใช้ยาที่เหมาะสมในชุมชนได้

คำสำคัญ : คำเขื่อนแก้ว, ยโสธร, ส่งเสริมการใช้ยาที่เหมาะสม, อย.น้อย

ABSTRACT

Since the problem of inappropriate drug use has been found in many communities of Khamkhuengaew, the OR-YOR-NOI students therefore rendered the project and several activities to improve the drug safety. This study was aimed to develop and evaluate the program that was initiated by the OR-YOR-NOI students to promote the appropriate drug use in their communities. The study design was Quasi-Experimental Study. Instructional System Design (ISD) model and “Phee Son Nong” model were employed to develop the process and to empower the students in developing their interventions. The samples of this study included 60 students from a high school and 90 students from 3 primary schools; 150 OR-YOR-NOI students’ family members; and 50 groceries’ owners from 50 groceries. The percentage, mean, standard deviation, and Paired t-test statistic were used in the data analysis of this study.

The interventions were implemented in 4 months (December 2010 to March 2011). They were the study of inappropriate drug use in the communities both before and after the public relations through walking campaign in school, community radio, community broadcasting tower, brochure, Six-page Novel, and Good Faith Diary. The measurements included 3 main aspects. The 1st one was the survey of the availability of inappropriate drugs in the community. The results showed that the knowledge level of the groceries’ owners was increased from 25 % to 92.5%; the number of groceries selling the inappropriate drugs was decreased from 68% to 56%, and the average number of the inappropriate drugs sold in the groceries was also decreased from 8.25 to 6.75. The 2nd one was the evaluation on the knowledge of the OR-YOR-NOI students’ family members which was revealed to be increased from 47.33% to 67.33%. The rest included the assessment on the knowledge and behavior toward the inappropriate drug use of the OR-YOR-NOI students. It was found that the mean of the OR-YOR-NOI students’ knowledge level increased from 9.91 to 13.06, and their behavior on buying the antibiotics themselves was decreased from 62% to 2.67%. Furthermore, the students who did not perceive the danger of using the analgesics and muscle pain relief drugs were decreased from 69.33% to 26.67%. This study supported the capability of the OR-YOR-NOI students to be the potential group on promoting the appropriate drug use in the community.

KEYWORDS : Khamkhuengaew, Yasothorn, Promote Appropriate Drug Use, Or-Yor-Noi

Introduction

Health promotion and consumer protection were the two concepts in health service system of the health promotion district hospital⁽¹⁾ for the good health of all people in Thailand. Thai society faced with several drug problems including unsafe medicinal products, unlawful drug distribution, irrational drug use, and the misperception of people in the community about drug utilization. The study showed that 31.2% of the people with universal health insurance still purchased drugs from the community groceries without any qualified personnel providing the services⁽²⁾. Moreover, the overuse of antibiotics that caused the drug resistance problem in Thailand became the major concern of health

services. It was found that over 40% of the total cost in health services was drug cost which one half was the cost of antibiotics⁽³⁾. In 1994, IMS Thailand Inc. presented that the cost of antibiotics used and sold in the drug stores in Thailand was 765 million Baht⁽³⁾. It reflected the risk of antibiotics used in the community. The study suggested that empowering the people about the knowledge and information of drug as well as antibiotics was needed⁽⁴⁾.

According to the survey of the irrational drug use and banned drug conducting by Drug System Monitoring and Development Plan (Faculty of Pharmaceutical Sciences, Chulalongkorn University) and Khamkhuengaew Hospital in Khamkhuengaew district; the OR-YOR-NOI students were found to

encounter with several problems related to drugs. The results showed that seven out of eleven groceries in Khamkhuengaew municipality area sold drugs without the license for selling drug and one grocery sold twelve items of illegal drugs. It was also found that most people in such community did not have enough knowledge about drug and self-care and misunderstood about drug use on analgesics, antipyretics, muscle relaxants, and antibiotics, etc⁽⁵⁾. The “OR-YOR-NOI students” were supported by the Thai Food and Drug Administration (Thai FDA) to be the health consumer protection volunteers in schools and communities, and have been trained periodically to act as the inspectors of food and health product safety⁽⁶⁾. Their roles have been recognized as one of the good models to tackle with the problems of drug and other health products in the communities over the country. Consequently, developing the “OR-YOR-NOI project” in Khamkhuengaew of this study was performed as the pioneer project on the consumer protection in the community.

Research Question:

1. What were the participating roles of the OR-YOR-NOI students focusing on managing the inappropriate drug use in the community?
2. What were the consequences after the implementation of the OR-YOR-NOI students’ roles toward the drug problems in the community comparing to before such implementation?

General Objectives:

To develop and assess the “OR-YOR-NOI project” on promoting the appropriate drug use in the community.

Specific objectives:

1. To develop the students participating roles in “OR-YOR-NOI project” on solving the problems of inappropriate drug use in the community.
2. Both before and after intervention implementation
 - (1) To survey the availability of the inappropriate drugs in the community through the knowledge level of the groceries’ owners, the

number of groceries selling inappropriate drugs, and the number of inappropriate drug items found in such groceries.

(2) To evaluate the OR-YOR-NOI student family members’ knowledge toward drug use.

(3) To evaluate the OR-YOR-NOI students’ knowledge and behavior about inappropriate drug use.

Expected Benefits:

1. The study would draw a lesson learned how to promote the appropriate drug use in the community by the students in “OR-YOR-NOI project”.
2. A networking of students on consumer protection in the community focusing on reducing the inappropriate drug use would be established.

Definition Terms:

OR-YOR-NOI students refer to the students who are the members of the “OR-YOR-NOI student club” in each school.

Drug knowledge refers to the knowledge related to the inappropriate drugs.

Inappropriate drugs refer to the medicines in the list of all kinds of antibiotics (Penicillin, Amoxycillin, Cotrimoxazole, Erythromycin, Chloramphenical, Tetracycline); and NSAIDs (Diclofenac, Piroxicam, Ibuprofen, and Aspirin).

Consequences refer to the three main outcomes which are

- the availability of inappropriate drugs in community (the knowledge level of the groceries’ owners, the number of groceries selling inappropriate drugs, and the number of inappropriate drug items found in such groceries);
- the drug knowledge of OR-YOR-NOI students’ family members; and
- the OR-YOR-NOI students’ knowledge and behavior toward inappropriate drug use.

Study Design:

The study design was the Quasi-Experimental Design.

Population:

The population of this study was the students and the people in Khamkhuengaew, Yasothon.

Samples and sampling methods:

1. Target areas:

1.1 The target communities were purposively selected from fifteen villages according to the high level of drug problem in the community, the low level of people knowledge, and the schools with active “OR-YOR-NOI student club” more than five years. From these criteria and the baseline information of the communities, therefore, Lumpuk Municipality (Moo 1, 2), Ban Lhao Fhai (Moo 9, 15), and Ban Khoak Klang (Moo 5, 14) were included in this study.

1.2 The target schools were purposively selected from the target communities which met all criteria of the standard characteristics of “OR-YOR-NOI student club” set by Thai FDA. Three primary schools and one high school were included in this study.

1.3 The target groceries were all groceries in the target communities which were observed to study the availability of the inappropriate drugs.

2. Target persons:

2.1 The target OR-YOR-NOI students in each selected school voluntary applied to join this project. They were the 150 responsible students in 4 target schools with active “OR-YOR-NOI student club” more than five years. There were 60 students from a high school (Khamkhuenga Chanupatham), and each 30 students from the 3 primary schools (Lhao Fhai, Khoak klang, and Kinderkaten Lumpuk).

2.2 The 150 members of the target communities were selected from a family member with over 15 years old of each target OR-YOR-NOI student.

Scope of the study:

1. Preparing phase:

In this phase, the high school students were trained by the community hospital pharmacist, doctor, and nurse; to be the trainers for the younger students in the primary school. The researcher was the one who set up the training program including the contents about general situation of drug problems in the community, the concept and methods used

in developing the interventions based on ISD model, and the knowledge about the inappropriate drug use found in the community. The ISD model comprised five steps of ADDIE process including Analysis (A), Design (D), Development (D), Implementation (I) and Evaluation (E).

2. Creating and designing a model phase:

The interventions were developed by the high school OR-YOR-NOI students applying the concept of ISD model that comprising ADDIE process to help them in creating and designing their interventions. “Phee Son Nong” model were also employed by the high school students as the key method in providing the lessons in teaching the students in the primary school. Both high school and primary school students in the “OR-YOR-NOI project” created their own roles together to tackle with the drug problems in their family households, schools, and communities.

3. Implementing phase:

The OR-YOR-NOI student’s interventions were implemented in their family households, schools, and communities. The consequences were compared both before and after the interventions’ implementation.

Data Collection and Study Instruments:

1. The data on situation of inappropriate drug use in the community:

1.1 Grocery data collection was conducted by interviewing the grocery’s owners to survey their knowledge, and by inspecting the drug products in each grocery using “Grocery Data Collecting Form” to observe the inappropriate drug availability and the route of drug distribution in each selected community.

1.2 The survey of the inappropriate drug use knowledge level of the OR-YOR-NOI students’ family members was conducted by using the questionnaire and the in-depth interview to collect more detailed information both before and after implementation. The correct answers of over 60% (12 out of 20 items) were counted as passing the test.

2. The data on interventions developed and implemented to improve the appropriate drug use in the community:

The “OR-YOR-NOI student roles data collection form” (including 5 steps as Analysis, Design, Development, Implement, and Evaluation) was used as a guide to observe and collect the data about the interventions developed and implemented.

3. The data of OR-YOR-NOI students' knowledge and behavior focusing on the inappropriate drug use were collected by the group discussion and in-depth interview.

Data Analysis:

The descriptive data analysis (percentage, mean, standard deviation) and the pair t-test with significant different level at the 0.01 were employed to the data analysis of this study.

RESULTS

1. Characteristics of the samples

1.1 OR-YOR-NOI students

The OR-YOR-NOI students that voluntary to participate in this study was purposively selected. They were 37 boys (24.67%) and 113 girls (75.33%). Ninety of them (60%) were 11-13 years old, 30 students (20%) were 13-15 years old, and the rests (20%) were above 15 years old.

1.2 OR-YOR-NOI students' family members

There were 150 OR-YOR-NOI students' family members with over 15 years old. Most of them were women (54.67%) and most lived in the Lumpuk municipality area (60%). About one-third (38%) and one-fourth (28%) of the members were respectively 35-45 and 45-55 years old. Their occupations were respectively as farmers, civil servants, and community leaders.

1.3 Groceries' owners in the community

There were 50 groceries' owners included in this study. Most of them (58%) were women, graduated below the Bachelor Degree, and were between 35-45 years old (64%).

2. Characteristics of the interventions

2.1 Intervention Development

2.1.1 Preparing Phase

The pharmacist, doctor, and nurse, were the ones who trained the high school students in order to make them understand the general situation of drug problems in the community and gave more technical knowledge about the inappropriate drugs found in the community.

2.1.2 Analysis Phase

The 60 high school OR-YOR-NOI students learned and shared their experiences about the drug use in the community and their households under the supervision of the community hospital pharmacist, doctor, and nurse. The information and examples about the drug preparation and the pictures of some drugs most available in the community were displayed in this phase for their learning and also for teaching the primary school OR-YOR-NOI students by the high school OR-YOR-NOI students in designing phase.

2.1.3 Designing Phase

The high school OR-YOR-NOI students clarified the contents and designed the activities using “Phee Son Nong” model and “Six page novel” in teaching the primary school OR-YOR-NOI students. The contents were about drug problem and 10 in-appropriate drug items prohibited to be sold in the grocery.

2.1.4 Developing Phase

The activities created by the students in the high school and the primary schools were “Walking campaign”, “Morning announcement in front of flag pole”, “Take noon break announcement”, “Grocery survey for inappropriate drugs”, “Easy drug information for household lover brochure”, “Announce through community broadcast tower or community radio”, “Six pages novel innovation”, and “Good Faith Diary”.

2.1.5 Implementing Phase

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

(2) Implementing the intervention by OR-YOR-NOI students to the groceries' owners
The OR-YOR-NOI students observed the inappropriate drugs in the community groceries based on the list of the inappropriate drugs and also educated them as well as distributed the brochure about the appropriate drug use to them.

2.2 Intervention Evaluation

2.2.1 Evaluation of Preparing Phase:

After training by the health professionals to the 60 high school OR-YOR-NOI students, the ones who passed the assessment were found to be significantly increased from 41.66% to 88.33% (p -value < 0.01). Their average score was significantly increased from 10.97 to 14.37 (p -value < 0.01).

2.2.2 Evaluation of Analysis Phase:

The 60 high school OR-YOR-NOI students were found to understand better on the OR-YOR-NOI's roles and could properly read the drug label, develop the six-page novels, and keep the record of the "trash bank program" as well as "good faith diary".

2.2.3 Evaluation of Designing Phase:

After training by the high school OR-YOR-NOI students using "Phee Son Nong" model, it was found that the primary school OR-YOR-NOI students who passed the assessment was increased from 31.11% to 76.67%. Furthermore, the "Good faith Diary" was found to be applicable to all primary schools to develop the students' skill on reading the drug label and learning how to use drugs properly and safely. The students could provide right information to the groceries' owners by collaborating with the health volunteers and health staffs in the communities. Moreover, the "Six-page novel innovation" was found to be very attractive to the primary school OR-YOR-NOI students during launching this program.

2.2.4 Evaluation of Developing Phase:

In the groceries, the more frequency of the announcement and the better support of the community's leaders as well as the health volunteers were taken, the better in reducing the availability of the inappropriate drugs and other improper health products were found.

2.2.5 Evaluation of Implementing Phase:

All developed activities and the contents about drug usage could be applied in all schools that had similar program via the OR-YOR-NOI students. The designing of learning procedures and learning aids could be adapted to the present circumstance of the community. However, it could be done differently depending on each objective and activity. The OR-YOR-NOI students played the key role in improving the knowledge of drug use in the community especially in their families.

(1) The intervention launching by the OR-YOR-NOI students to their family members

The OR-YOR-NOI students in both high school and primary school used the "good faith diary", flyers, drug's label, and some information supported by Khamkhuenga hospital to communicate with their families' member, and they tended to have better relationship with their families. They were able to take care of the elderly in their families and to help them to arrange the right drugs for themselves.

(2) The intervention launching by the OR-YOR-NOI students to the grocery owners

The OR-YOR-NOI students in both high school and primary school could identify the specific types of food, drug and nutritional product; and the difference between the household medicine and the dangerous drug by reading the label. The performance level of the high school and primary school OR-YOR-NOI students were different in terms of their leading and working skills. The high school OR-YOR-NOI students had better performance in communicating and public speaking than those in the primary school.

3. Effects of the intervention implemented by OR-YOR-NOI students on promoting the appropriate drug use in the community

3.1 The situation of inappropriate drugs available in the community

3.1.1 The knowledge level of the grocery owners

The results showed that the knowledge level of the grocery owners after the

implementation was increased from 25% to 92.5%. Regarding to the interview performed by the OR-YOR-NOI students, it was found that 83.33% of the grocery owners understood that the groceries were prohibited by law to sell the inappropriate drugs (10 items), and 82% of them knew about the government policy in the restriction of selling the antibiotic drugs and steroid combination drugs for pain relief. About half of them (54.7%) knew the government's reason in controlling these drugs for the patients' safety.

3.1.2 The number of groceries selling inappropriate drugs

It was found that the groceries with inappropriate drug available after the implementation were decreased from 68% to 56%. Furthermore, the number of groceries sold the following inappropriate drugs after launching the intervention was decreased as the follows: Tetracycline (56% to 38%) Aspirin powder 60 mg (44% to 40%), Penicillin 400,000 i.u. (34% to 28%), and Amoxycillin (22% to 0%). There was no grocery found to sell any Chloramphenical and Cotrimoxazole both before and after implementation.

3.1.3 The number of inappropriate drug items found in the groceries

The average inappropriate drug items available per store were decreased about 18.18% (8.75 to 6.25 items) after launching the intervention.

3.2 The average score of the knowledge of OR-YOR-NOI students' family members about drug use in the community

After launching the interventions, the knowledge (average mean score) of OR-YOR-NOI students' family members was found to be statistical significantly increased from 10.65 to 11.69 ($p\text{-value} \leq 0.01$). The ones who passed the scores (equal or higher than 12) were increased from 47.33% to 67.33%.

3.3 The knowledge and behavior of the OR-YOR-NOI students toward the inappropriate drug use

3.3.1 The knowledge of the OR-YOR-NOI students toward the inappropriate drug use

The knowledge of OR-YOR-NOI students in all schools was collected by using the questionnaire to survey the inappropriate drug use situation before and after launching the interventions. It was found that their average mean score was significantly increased from 9.91 to 13.06 after launching such interventions ($p\text{-value} \leq 0.01$). After training, the knowledge of high school and primary school OR-YOR-NOI students was respectively found to be increased from 41.67% and 31.11% to 88.33% and 76.67% ($p\text{ value} \leq 0.01$). Additionally, the OR-YOR-NOI students recommended that the responsible persons or organizations should promote the appropriate and safety drug use in the communities, regularly inspect the groceries, and punish the owners and the sellers of the groceries those selling inappropriate drugs.

3.3.2 Behavior on buying the analgesics and muscle pain relief drugs

About 50% of the OR-YOR-NOI students in this study experienced the analgesics and muscle pain relief drugs by buying from the drug stores or receiving from the hospitals. After the interventions, the students who did not perceive the danger of using such drugs were decreased from 69.33% to 26.67%. They still use such drugs from the community groceries due to the convenience and the drug availability.

3.3.3 Behavior on buying the antibiotic drugs

Before launching the interventions, 88.67% of the OR-YOR-NOI students were found to have experience in using antibiotics in the name of "inflammation drug" which were mostly taken respectively from the general hospitals, local hospitals, and the medical clinics; but only 38% of them knew that it was antibiotics. After the interventions, their behavior on buying the antibiotics themselves due to their perception on the danger of using such drug was found to be decreased from 19.33% to 2.67%.

Conclusion

This study showed that the role of OR-YOR-NOI students could improve the situation of inappropriate drug use in the community. After launching the interventions, OR-YOR-NOI students

and their families' members had significantly more knowledge on inappropriate drug use and the groceries selling inappropriate drugs were also found to be decreased. However, the reduction of inappropriate drug items in the groceries was found only minor change. Only the communities with good connection to the health volunteers had effective potential in decreasing such inappropriate drug items in the groceries.

ISD model comprising ADDIE process could be applied to improve the student performance in "OR-YOR-NOI student club". The high school OR-YOR-NOI students had effective roles on improving the inspection skill, ability to read drug labels, and conducting the training program on "drug safety use for children and peoples" for the primary school OR-YOR-NOI students. They had well understanding and could apply ISD model and "Phee Son Nong" model to improve and develop a program for the primary school students. The OR-YOR-NOI students in the primary school had difference in their skills and ability to access to the information resources but some were more interested on drug problems and innovation design. After launching the program in the preparing phase, the results showed the improvement of drug knowledge of OR-YOR-NOI students in both high school and primary school.

Discussion

1. Intervention Development

1.1 The evidences those could confirm the effectiveness of ISD model on promoting the success of the intervention development on the drug safety use in the community were as the follows:

1.1.1 In the analysis phase, the OR-YOR-NOI students were interested on drug problems found in their households. The "root cause analysis" could help them to clarify the root causes of problems on drug use in their communities through brainstorming session.

1.1.2 In the designing and developing phase, the primary school students were found to have less experience about OR-YOR-NOI roles and only some of them could strengthen their OR-YOR-NOI's program because some schools had just launched the projects on food safety or cosmetic

safety. "Phee Son Nong" model was also taken into action to strengthen such program by the support of the high school students who had more skills and ability to work continuously. However, it was found that the training and coaching provided by the high school students to the primary school students could work well under this activity.

1.1.3 In the developing phase, several activities created by the OR-YOR-NOI students were quite the same as general OR-YOR-NOI program. However, "Good Faith Diary" and "How to read a drug label" were the new roles created and launched by the students to improve the safety drug use in their households.

1.2 Basic requirements for the effective intervention development

The effective intervention development depended on the potential volunteer students in "OR-YOR-NOI student club" with continuous consumer protection activities and the support of health personnel.

2. Intervention Implementation

2.1 The effective implementation of intervention found in this study was as the follows:

2.1.1 "Good Faith Diary" was the diary that the primary school OR-YOR-NOI students noted their activities after providing information and helping their families such as the reading of drug label, etc. This was applied and shared to the students to improve the compliance of other drugs use in their households.

2.1.2 "Six pages novel in 7-Right⁽⁷⁾ technique for drug safety use" was presented by the high school OR-YOR-NOI students to the primary OR-YOR-NOI students. "Six pages novel" was the story novel on a six pages roll that was created and designed in the style of cartoon or art.

2.2 The factors influencing the effectiveness on implementing the interventions were as the follows:

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

2.2.1 The supports of the Provincial Health Office and Community Hospital pharmacists.

2.2.2 The co-ordination with the director and teachers in each school, and the community leaders in order to ask for the supports of some resources in launching a program.

2.2.3 “Phee Son Nong” model and “Good Faith Diary” as well as the other interventions of “OR-YOR-NOI roles” could be respectively applied to improve the drug knowledge of the primary school OR-YOR-NOI students and their families’ members.

2.2.4 The relationship between the students and their families’ members.

2.2.5 The community culture should be taken into accounts with the community’s field work using “Community calendar” to make a better plan for the most efficient field work.

2.3 An impact of OR-YOR-NOI student program on reducing the inappropriate drugs in the groceries was found to be less than on changing the OR-YOR-NOI family member’s knowledge.

3. Limitation of the intervention toward the effects to promote the appropriate drug use

3.1 The accurate information on the inappropriate drug items those could be sold in the groceries was considered to be validated periodically since such selling was illegal as the grocery owners’ view. Therefore, it needs to maintain the interventions to achieve the sustainability of the appropriate drug availability.

3.2 The effective OR-YOR-NOI roles could not be definitely assumed to increase the knowledge of the OR-YOR-NOI student families’ members due to some probably impacts from the other sources of information.

Recommendation

The lessons learned from this study definitely confirmed that the OR-YOR-NOI students could contribute a lot on promoting the appropriate drug use in the community. Their strong intention to participate in this study, much interesting in the health science and health related problems, and

the support of pharmacists as well as other health personnel are necessary for the effective intervention and the achievement of this study. Furthermore, a chance for the students in the OR-YOR-NOI club to understand well on the concept of ISD model, Root Cause Analysis (RCA), brainstorming concept, and to learn how to clarify the situation in class or daily life; would enhance their skills and performance for their living. In order to make most benefits to improve drug safety use among the community members, concerning about the inappropriate drugs available in the community and the improving of drug adherence in the chronic patients should be included in the intervention program. The OR-YOR-NOI students could also absolutely help the adults or the youth in their families by providing drug safety use information. However, the designing of contents in the preparing phase needs to be supported by the pharmacists and other health personnel, and it should be developed under the contexts and problems of each community situation.

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