Original Article

Knowledge, Attitude, and Practice Towards Rational Drug Use Among People in Phetchabun Province, Thailand

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Abstract

This study purposed to investigate knowledge, attitude, and practice (KAP) and to explore its influencing factors of rational drug use among people reside in Phetchabun, a province of Thailand. A cross-sectional study was conducted through an online survey using a set of questionnaire distributed from April to June 2023. Descriptive statistics were used in analysis results while chi-square test was carried out to examine the influencing factors. The results showed that 44.39%, 40.01%, and 55.85% of the participants had a moderate level of knowledge, attitude, and practice respectively. Practice level was a significant related to gender (p=0.001), age (p=0.001), marital status (p=0.003), education status (p=0.001), profession (p=0.001), monthly income (p=0.001), residence area (p=0.001), knowledge (p=0.001) and attitude (p=0.001). The findings identified that rational drug use literacy was influenced by individuals' health literacy. Useful information, positive attitude, and awareness of harmful outcomes towards irrational drug use could be promoted.

Keywords: knowledge, attitude, practice, rational drug use, health literacy

Introduction

By multidimensional concept, health literacy (HL) is defined as individuals' capacity of cognitive and social skills to access, understand, and use health-related information and services in a way boosts and maintains their good health[1,2]. Individuals with adequate HL had benefits included increased prevention rate and early disease diagnosis[3]. On the other hand, people with insufficient HL had various undesirable health consequences such as lower medication adherence, and irrational drug use[4-5]. Moreover, HL level of individuals enhances a quality life as an important factor influencing rational drug use[6]. However, HL and rational drug use are two decisive aspects firmly connected in development of individual and community health[7].

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According to WHO definition, rational drug use generally is ability of people to provide appropriate medications to their own clinical needs and individual characteristics with appropriate periods and dosages, at the most reasonable cost. Nevertheless, irrational drug use was globally seen currently; such as irrational use of antibiotics in Northern Tanzania[8], and overuse of polypharmacy practices and antibiotics in Northwest Ethiopia[9]. Furthermore, the irrational use of drug remains a crucial health challenge in Thailand. For example, prevalence of problems of irrational drug use in Eastern Economic Corridor[10]. In addition, Soda O, et al. reported that 96% of Ya-chud and herbal medicines users was not knowledgeable on dangers of drug with steroids[11]. Non-rational use of medication not only leads to a non-compliance with treatment, failure to achieve therapeutic goals, drug resistance but also creates negative economic outcomes[12].

Rational drug use (RDU) is one of strategies to develop national drug system based on service plan of Ministry of Public Health (MOPH). The MOPH determined to strengthen healthcare personnel, become having knowledge, attitude, and skill in achieving the rational drug use[13]. Theory of knowledge, attitude, and practice (KAP) emphasizes that after acquiring information, people will use that information to generate attitude/beliefs, in turn, their practices/behaviors are formed or adjusted[14]. Consequently, to be effectively changed people should receive sufficient knowledge to create correct beliefs and adapt healthy behaviors[14]. However, the RDU not only concerns on physicians and health personnel but also significantly impacted by attitudes and behaviors in communities[15]. This study; therefore, was conducted to discover knowledge, attitude, and practice of rational drug use of people who reside in Phetchabun, a province in central region of Thailand, and explore influencing factors of practice towards the rational drug use.

Methods

The study population included 974,132 people residing in Phetchabun province. Firstly, using Taro Yamane's, minimum sample size calculated was 440 with a 10% of dropout rate included. Next, random cluster sampling was adopted. By the end of the study, we enrolled a larger sample size of 2,462 subjects. This study used a questionnaire adapted from Phodha T, et al.'s study[16] and Health Education Division's study[17]. The 60-item questionnaire was divided into three categories: knowledge, attitude, and practice. Results from the piloting were shown 0.808, 0.943, 0.833 reliability calculated through Alpha Coefficient. The questionnaire was made in Google Form and a link was online distributed through Line Application to fill in it which was sent from 20 April to 20 June 2023. The demographic data was evaluated by using number, percentage, mean and standard deviation. Then Chi square test was analyzed to explore any associations.

Ethical approval was obtained from the Research Ethics Committee of Sirindhorn College of Public Health, Phitsanulok (SCPHPL 3/2566.1.2) on 22 March 2023.

Results

The respondents included 1645 females (66.8%) and 817 males (33.2%). Majority of them were married (56%) and aged 45-59 years (37%). There was a higher number of agriculturist (32.8%), followed by civil servant/state enterprise employee (21.8%) and student (18.3%). Most of them were high school education level (28.6%) with ≤ 5,000 B monthly income (40%). Among of them, 18.5%, 15.1%, 12% of the respondents were residing in area of Mueang Phetchabun, Nong Phai and Wichian Buri respectively.

Knowledge level of rational drug use among people in Phetchabun

Male respondents (63%) had a lower level of knowledge but female had a moderate level (53%). Almost all of age group had a moderate level but group of 25-44 years was in lower level (35.9%); surprisingly, there were no age group having the highest level. Divorced status was in a lower level (47.2%) while none of them was in the highest level; remarkably, widowed status had both low and moderate level with the same percentage (43.9%). Undergraduate education level was in the highest level (47.4%) whereas diploma and postgraduate were in a lower level (75.4%, 47.2%). Half of profession was in a moderate level (56.6%, 57.4%,

46.1%) when civil servant /state enterprise employee were in the highest level (53.1%). The respondents in monthly income group of 20,001 – 30,000 ฿ and ≥ 30,001 ฿ had the highest level (43.4%, 53.3.%) but 5,001 – 10,000 ฿ and 10,001 – 20,000 ฿ group were in a lower level (47%, 34.5%). Interestingly, most of residence area had a moderate level except Bueng Sam Phan with the highest level (43%) while area of Lom Sak, Lom Kao, and Si Thep found in a lower level (53.4%, 39.1%, 70%)

Attitude level of rational drug use among people in Phetchabun

Considering attitude category, female respondent had a moderate level (47.1%) while majority of male was in a lower level (53.5%). Half of age group was in a moderate level whereas groups of 14-24 years and 25-44 years had the highest level at 35.9% and 33.9%; surprisingly, none of them was in lower level. Divorced status had a lower level (35.9%) while single had the highest level (39.6%). Diploma (71.1%) and postgraduate (47.2%) education were in a lower level but undergraduate in the highest level (42.2%). Unemployed (76%) and self-employed (50%) had a lower level whereas agriculturist (54.2%) and employee (41.7%) had a moderate level; remarkably, civil servant/state enterprise employee (47.3%) and student (39.7%) had the highest level. The respondents with monthly income 5,001-10,000 ฿ (41%) were in a lower level but most of them were in the highest level. Most of area residence were in a moderate level while Mueang Phetchabun (42.2%) and Bueng Sam Phan (36.5%) area were in the highest level; interestingly, area of Lom Sak, Lom Kao, and Si Thep found in a lower level (47%, 35.5%, 70%) as well as knowledge category above.

Practice level of rational drug use among people in Phetchabun

In respect to practice, most of female had a moderate level (66%) but male in a lower level (53.9%). Surprisingly, all of age ranges were in a moderate level as well as marital status and monthly income. Diploma (71.9%) and postgraduate (47.2%) education was in a lower level as well as knowledge and attitude while most of them were in a moderate level. Almost all of profession were in a moderate level except unemployed (77.7%) and self-employed (50.5%) had a lower level. Residence area of Lom Sak (45.7%) and Si Thep (70%) were in lower level but majority of them were in a moderate level. Interestingly, there was no report of the highest level in any demographic characteristics in respect to practice category.

Factors associated with practice level towards rational drug use regarding demographic variables

Table 1 presented significant associations between practice level and gender (P= 0.001), age (P= 0.001), education status (P= 0.001), profession (P= 0.001), monthly income (P= 0.001), residence area (P= 0.001) while there was found a significant association between practice level and marital status (P= 0.003).

Table 1 factors associated with practice level towards rational drug use regarding demographic characteristic

Demographic characteristics	Chi square (χ^2)	p-value
Gender	540.67	0.001*
Age	103.026	0.001*
Marital status	19.69	0.003*
Education status	228.83	0.001*
Profession	358.18	0.001*
Monthly income	186..62	0.001*
Residence Area	190.10	0.001*

* significant at the p<0.01 level

Table 2 demonstrated that the statistical test showed significant associations between knowledge and practice (P=0.001) and attitude and practice (P=0.001). The findings revealed a lower level of knowledge as well as attitude, there also was found a lower level of practice. Although the respondents reported either a moderate or a higher level of both knowledge and attitude, they possessed a moderate level of practice.

Table 2 factors associated with practice level towards rational drug use regarding knowledge and attitude level

Variable	Level	Practice (N, %)			Chi square (X^2)	p-value
		Low	Moderate	High		
Knowledge	Low	582 (70.12%)	226 (27.23%)	22 (2.65%)	1,419.66	0.001*
	Moderate	30 (2.74%)	812 (74.29%)	251 (22.96%)		
	High	5 (0.93%)	337 (62.52%)	197 (36.55%)		
Attitude	Low	556 (87.15%)	77 (12.07%)	5 (0.78%)	1,786.97	0.001*
	Moderate	43 (4.37%)	724 (73.50%)	218 (22.13%)		
	High	18 (2.15%)	574 (68.41%)	247 (29.44%)		

* significant at the p<0.01 level

Discussion

This study was designed to investigate knowledge, attitudes, and practice towards rational drug use of people in Phetchabun.

In this study, the findings revealed that female participants had the higher level of KAP compared to male, similar to Lee HY, et al.[18]. It was thought to be caused by Thai women play a vital role when family members and children were sick. This situation may provide women more opportunities to interact healthcare providers, building their knowledge. Moreover, the current study found that the respondents having undergraduate were in the highest level of knowledge; inconsistent with Annie VSY, et al.[19]. This might be caused by they were in educational program and enthusiastically search out useful information from various resources especially smart phones. Furthermore, this study all of age group but 25-44 years group demonstrated a moderate level of knowledge. In contrast to those findings, a study conducted in Saudi Arabia[20] stated that participants aged > 45 years showed the highest median knowledge score. This is probably because older individuals difficultly access drug-related information through use of electronic devices, their acquiring and understanding were rather limited.

Regarding to attitude level, the present findings showed unemployed and self-employed group were groups had a lower attitude in a parallel with Çaylan A, et al.[21]. Interestingly, there was also found that civil servant/state enterprise employee had a higher level of knowledge as well as attitude. A possible explanation is these occupations were academic-related jobs, they access various academic resources to enhance their knowledge from credible sources. In addition, the current study the participants from Mueang and Bueng Sam Phan area had the highest attitude level while they residing in Lom Sak, Lom Kao and Si Thep area had the lowest level. Surprisingly, Si Thep was one of residence areas showing the lowest level of attitude as well as knowledge and practice. This situation may be associated with different location of residence, it is reasonable to assume that living in a rural area increased chances to have insufficient drug literacy[22].

Refer to practice level, the results reported all of monthly income demonstrated a moderate level of practice. Contrast with those findings, Yu ting et al. stated the higher the monthly personal income, the safer the medication behavior[23]. Moreover, this study all marital status showed a moderate level of practice

in similar to a study done in Thailand[24]. This result may be explained by the fact that the respondent have adequate awareness for rational drug use.

Another purpose of the study was to discover influencing factors of demographic characteristics, knowledge, and attitude with practice towards rational drug use.

The findings revealed that the respondents had a lower level of knowledge as well as attitude, they also had a lower level of practice. Although the respondents reported either a moderate or a higher level of both knowledge and attitude, they possessed a moderate level of practice. This was supported by a suggestion mentioned that more knowledge or better attitude to antibiotics did not necessarily translate to better practice[25]. In addition, this study found associations between knowledge and attitude level with practice level at 0.001 p-value. In contrast to those findings, there was found that practice scores only weakly correlated between with knowledge scores or attitude scores[25]. Similar to these findings, an Iranian study of KAP showed a significant relationship between practice scores and knowledge scores ($p<0.001$) attitude scores ($p<0.001$), older age ($p<0.001$), and female gender ($p=0.013$). Both knowledge and attitude obviously were two of the most powerful predictors of practice score[26]. Furthermore, the present study found an association between gender, age, education, profession, monthly income, residence area, marital status and practice domain. In contrast to those results, there was a study done in Malaysia[27], reported that there was no significant association between nurses & medical students practice score with demographic characteristics including household income. However, similar to those findings, a study done in Iran[22] showed that significant relationship between age, educational attainment, residing area with drug literacy. Wu YX, et al. also found significant differences for the score of medication practice by age, education level and occupation[28].

However, this study there were some limitations. Firstly, the study was conducted using online questionnaire distributed through LINE Application, the participants who could access electronic devices and had internet-savvy voluntarily did the questionnaire. Therefore, these findings could not be generalized to the entire population of Phetchabun province. Also, this cross sectional design could not identify causality among the variables

Conclusion

In summary, overall knowledge, attitude, and practice towards rational drug use were at a moderate level. There were also found that demographic characteristics including gender, age, marital status, educational status, monthly income, residence area as well as knowledge and attitude were significantly associated with practice level. However, it was probably assumed that rational drug use could be influenced by individuals' health literacy.

Following service plan by Thai Ministry of Public Health, building health literacy regarding rational drug use literacy is one of major strategies to promote rational drug use community. To be more competence in rational drug use, individuals were required to be encouraged for increasing helpful knowledge through a variety of media. In addition, educational programs or activities would be organized to enrich positive attitudes and motivate in performing preventing risky behaviors. Well-planned campaigns would be also introduced to raise more awareness of harmful effects of irrational medication use.

Source of funding: self-funded research

Ethical Clearance : Ethical approval was obtained from the Research Ethics Committee of Sirindhorn College of Public Health, Phitsanulok (SCPHPL 3/2566.1.2) on 22 March 2023.

Conflict of Interest: Nil

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