ORIGINAL ARTICLE

Effects of Stigma and Discrimination Against HIV Infected People Reduction Program Among Health Staff

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ABSTRACT

Introduction: The Ministry of Public Health of Thailand has launched its new 2017–2030 National AIDS Strategy, one of the goals is to reduce HIV-related discrimination in healthcare settings by 90% by 2030. Because stigma and discrimination[S&D] from healthcare providers are one of the leading causes of HIV-infected people avoiding treatment and delaying access to healthcare services. **Materials and Methods:** A quasi-experimental one-group pre-posttest repeated measures design. A simple sampling random technique was used to select 84 health staff members by using calculation formulas of sample selection for S&D in a hospital. The research instrument, permitted by the Ministry of Public Health, consisted of the S&D against HIV-infected people reduction program, which consists of five activities administered over two days, totaling 12 hours. The data collection instruments, reliability was examined with 30 health staff, yielding Cronbach's alpha coefficients equal to 0.81 and 0.88, respectively. Data were analyzed using descriptive statistics, one-way repeated ANOVA, and Bonferroni's test. **Results:** There were significant differences in the mean score of attitudes towards PLHIV and concern about being infected with HIV from service provision at the baseline on days 3 and 15 ($F=900.853$, $p < 0.01$; $F=1199.500$, $p<0.01$). **Conclusion:** The S&D of health staff on HIV-infected people was reduced in the study hospital which led to increased indicators of patient access. Further studies of greater methodological quality are needed, and studies that aim to reduce HIV-related S&D should be implemented in specific settings and specific targeted populations.

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Keywords: Stigma, HIV-related discrimination, health staff attitudes, HIV infection concerns, and Health staff perceptions

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INTRODUCTION

At present, in the treatment of HIV/AIDS patients, antiretroviral drugs are prescribed which allows these patients to lead a normal life. However, Thai society is frightened by prejudices or beliefs surrounding HIV/AIDS that are still deeply embedded, which are "stigma and discrimination." In the extrapolation of the AIDS epidemic model and Spectrum in 2023, Thailand had 520,000 people living with HIV (PLHIV) and around 447,061 HIV-infected people were receiving antiretroviral drugs, representing 85 percent of the total percentage of PLHIV (1). Although Thailand provides free antiretroviral drugs for all PLHIV, approximately 15 percent of HIV-infected people still avoid treatment. The survey found that one of the reasons was stigma and discrimination from society and those around them (2).

As a result, these HIV/AIDS patients have decided to hide and have refused to receive treatment, which delays access to health services and increases HIV infection. It can be seen that stigma and discrimination against

PLHIV have become a serious problem that affects both society and PLHIV themselves. Nowadays, this problem is more severe if stigma and discrimination against HIV/AIDS patients occur in a hospital by health staff. The Ministry of Public Health of Thailand has launched its new 2017–2030 National AIDS Strategy, which provides a road map for ending the AIDS epidemic as a public health threat in Thailand by 2030; one of the goals is to reduce HIV-related discrimination in healthcare settings by 90% by 2030 (1). A literature review found that the stigma and discrimination from healthcare providers is one of the leading causes of HIV-infected people avoiding treatment and delaying access to healthcare services (1).

Chawang Crown Prince Hospital (CCPH) is a community hospital in Nakhon Si Thamarat province located in the south of Thailand. This hospital has an HIV/AIDS clinic, which provides a one-stop service for the patient undergoing HIV/AIDS treatment. One of the goals of the 2017–2030 National AIDS Strategy is the 90–90–90 targets, whereby 90% of people living with HIV know their HIV status, 90% of people who know their HIV-positive status are accessing treatment, and 90% of people on treatment are virally suppressed. From the performance in 2021 and 2022, CCPH has not achieved these targets of 90–90–90 as the figures show 85.1, 85, and 88, respectively. One of the problems is that patients are lost to follow-up because they were discriminated against by the staff (2).

Thus, the researcher who worked at the HIV/AIDS clinic surveyed the opinions of the health staff in CCPH by using the stigma and discrimination for the PLHIV questionnaire in the hospital, which has been authorized by the Department of Disease Control Ministry of Public Health (2). The study shows that 84.24 percent of staff have a negative attitude towards HIV/AIDS patients, 73.15 percent are concerned that they will be infected with HIV from providing services, and 70.11 percent overprotect themselves while providing services to people living with HIV/AIDS. The survey results strongly support that the health staff have a negative attitude and are concerned about infections from service provision (3). Therefore, the researcher has been aware of the importance of the issue and has conducted a literature review. The finding shows that the International Health Policy Program (IHPP) of the Ministry of Public Health (4) has developed a program to reduce stigmatization and provides guidelines for health staff in caring for HIV/AIDS patients.

The study conducted by Nava Phanawong (5) found that the program mentioned above was used to study methods for solving stigma and discrimination against HIV-infected people and AIDS patients. The results showed that after training, health staff better understood patients' feelings. The researcher and co-researchers recognize the importance of reducing stigma and discrimination among health staff against patients. Therefore, they participated in training and skill-building using the program mentioned above to enhance knowledge and various skills in promoting understanding toward health staff. Subsequently, the researchers requested permission to use the program for research purposes and planned the evaluation process before using the program. The results were evaluated on day 3, followed by repeated evaluations, and the program concluded on day 15 after implementation. This was because the literature review showed that people's behavior would change after engaging in an activity for at least two weeks and that there would be long-term behavior changes of approximately 3-6 months (6).

In this study, the researcher was interested in using the program to reduce stigma and discrimination against HIV/AIDS patients to increase positive attitudes and reduce the concerns about infection among health staff services. The program would prepare staff with knowledge, understanding, and a willingness to provide services to this patient group, consequently encouraging patients within this group to feel comfortable seeking medical treatment at the hospital. This ultimately leads to a reduction in stigma and discrimination against HIV/AIDS patients which is in line with the policy of the national strategy on sustainable reduction of stigma and discrimination against HIV/AIDS patients.

Objectives of the research

To compare the mean scores of the attitudes of health staff towards service provision for HIV/AIDS patients and the concerns of health staff about HIV/AIDS infection from servicing HIV/AIDS patients in the pre-test, post-test (day 3), and follow-up phases (day 15).

Research hypothesis

The mean scores of the attitudes of health staff towards HIV/AIDS patients' service and the concerns of health staff about infection HIV/AIDS from providing services to HIV/AIDS patients in the post-test (day 3) and follow-up (day 15) phase are higher than the pre-test phase.

MATERIALS AND METHODS

Methodology

This research was a quasi-experimental, one-group pre-posttest repeated measures design that consisted of three phases: the pre-test, the post-test (day 3), and the follow-up (day 15).

Population and Sample Size

Population

Health staff working in Chawang Crown Prince Hospital, Nakhon Si Thammarat, 262 people.

Sample size

The minimum sample size required for participation in the stigma and discrimination program was determined using the S&D formula (1). To compensate for dropout, the sample size accounted for 10 percent of the sample (7). Therefore, the sample group for this research project consists of 84 individuals selected by proportional calculation and random sampling from the identification numbers of health staff working at CCPH, which is divided into each professional group. Totaling 84 individuals, with inclusion and exclusion criteria as follows:

1) Inclusion criteria; Health staff working in CCPH for at least six months, able to read, understand, and communicate in Thai, and consent to participate in the research project.
2) Exclusion criteria; unable to understand and communicate in Thai, and/or refuse to participate in the research project.

Research instrument

The research tools consist of two parts as follows:

Part 1, the experimental tool, consists of a program to reduce stigma and discrimination and promote positive practices. It was developed through collaboration with the International Health Policy Program (IHPP), Ministry of Public Health, Research Institute for Health Sciences (RIHES), Faculty of Medicine of Chiang Mai University, and AIDS TB&STIs Control Division, Department of Disease Control, Ministry of Public Health (4).

Part 2, data collection tools were requested for use from the Department of Disease Control (4), consisting of:

2.1 A basic personal data record form containing age, gender, work characteristics, working age, and knowledge of HIV/AIDS.
2.2 A questionnaire on service attitudes toward HIV/AIDS patients (8) translated into Thai was used to assess attitudes toward HIV/AIDS patients.
2.3 A questionnaire on concerns related to HIV infection from HIV care services (8) translated into Thai was used to assess concerns about infection from HIV care services.

Research instruments and reliability

A program for reducing stigma and discrimination and promoting positive practices was developed through collaboration with the IHPP, Ministry of Public Health, RIHES, Faculty of Medicine of Chiang Mai University, and AIDS TB&STIs Control Division, Department of Disease Control, Ministry of Public Health (4).

For the questionnaire on service attitudes towards HIV/AIDS patients and the questionnaire on concerns related to HIV infection from HIV care services, the researcher requested permission to use the questionnaires from the Department of Disease Control, Ministry of Public Health (4). The content of the questionnaires was revised until it was accepted and agreed that it covered various essential issues related to stigma and discrimination and was appropriate to the Thai context. The researcher determined the reliability of the questionnaire on service attitudes towards HIV/AIDS patients and the questionnaire on concerns related to HIV infection from HIV care services by experimenting with a sample group of 30 healthcare personnel who have similar characteristics to the sample group. The reliability of the questionnaires was calculated using Cronbach's alpha coefficients equal to 0.81 and 0.88, respectively.

Ethical consideration

The research has been approved by the Ethics and Human Research Committee of Nakhon Si Thammarat Provincial Public Health Office Certificate code NSTPH 034/2022 (dated 26 September 2022) for data collection.

Data collection

The data collection process was divided into three phases: preparation, processing, and data collection by carrying out program activities. Face-to-face activities were divided into three groups of 28 people per group, a total of 84 people, with activities lasting two days per group and totaling 12 hours, as detailed below.

1. Preparation phase

1.1 Once the research draft was reviewed by the committee and passed the ethical consideration of human research at the Nakhon Si Thammarat Provincial Public Health Office, the researcher informed the Executive Committee of CCPH. After that, the researcher and co-researcher prepared a letter to request permission. Once permission was granted, the researcher proceeded with the data collection.

2. Processing phase

The researchers introduced themselves, established a relationship with the participants in the sample, explained the purpose of the study, and described the steps involved in the research activity as follows:

Day 1

2.1 The researcher was responsible for conducting the program. The research assistant, an expert HIV/AIDS care nurse, was responsible for data collection before, during, and after the experiment and during the follow-up period. The research assistant received training and an understanding of data collection from the researcher. Before the program was administered, basic information

data was collected from the sample group. This basic information consisted of primary personal data, a questionnaire on service attitudes towards HIV/AIDS patients, and a questionnaire concerning infection from HIV care services.
2.2 The sample group received the program to reduce stigmatization and discrimination and to adopt practices from the researchers and research assistants who obtained training and skills development in the use of techniques from the Department of AIDS, Disease Control Division, Ministry of Public Health. All three sample groups received the program where the duration for each group is two days, totaling 12 hours as follows:

Day 1

Activity 1 "Yes! We are stigmatized, and we must change."

The activity was an image discussion, where the sample group collaborated to discuss and express their opinions on how the patients behave or feel, the reasons behind their actions, and why the healthcare providers act in a certain way. The sample group worked together, providing their opinions by presenting the causes and placing the images in positions corresponding to their views. It took 1.5 hours for this activity.

Activity 2 "The Blame Game"

The sample group together brainstormed terms used to call HIV-infected individuals. The key populations included those with HIV, LGBTQ+, service workers, international migrant workers, and intravenous drug users. The sample group recorded on flipchart paper the words people in society use to refer to various groups. If the words were offensive or discriminatory, the harshest words in each group were marked in red. It took 2 hours to complete this activity.

Activity 3 "Universal Precaution; UP"

Before conducting the activities, the researcher returned survey results to inform the sample group about the prevalence of stigma and discrimination. This was to talk about the sample group's reactions:
1) the proportion of people concerned about HIV infection from providing services to HIV-infected persons.
2) the proportion of people who take more precautions than usual during the provision of services to people living with HIV/AIDS. From there, the sample group was divided into smaller groups to look at pictures and encouraged to consider "risk," "no risk," or "uncertain.

The researcher explained the principles of infection risk assessment (Quantity, Quality, Route; QQR) and UP principles. The researcher persuaded the groups to consider images that still present controversial issues in determining "at risk," "not at risk," or "uncertain" according to the principles of UP and QQR by using a group process to enhance understanding and encouraging encourage risk analysis and acceptance of risk assessment together. It took 2.5 hours for this activity.

Day 2

Activity 4 "Speaking of Stigma and Discrimination in the Hospital"

The researcher conducted a group activity by dividing the participants into groups and asking each group to think about which departments exist in the hospital organization that have the opportunity to stigmatize and discriminate against HIV/AIDS patients and which procedures or steps refer to the practice, as mentioned in the video. It took 3 hours for this activity.

Activity 5 "Guidelines or solutions."

The sample group brainstormed opinions analyzing stigma and discrimination in hospitals and identified the impact of this on the service receiver/provider, service unit, or system. They also helped propose guidelines or solutions to address the issue. This activity took 3 hours.

3. Data collection phase

3.1 After receiving the stigma and discrimination reduction program on day 3, the sample groups were assessed using a questionnaire on service attitudes towards HIV/AIDS patients and a questionnaire concerning infection from HIV care services.
3.2 Data were collected on day 15 after receiving the reduction program on attitudes and concerns about being HIV-infected from service provision. The sample was re-evaluated using the questionnaire on service attitudes towards HIV/AIDS patients and the questionnaire on concerns related to HIV infection from HIV care services.

Statistical analysis

1. Personal data were analyzed using frequency distributions, percentages, means and standard deviations.
2. In the comparison of the mean scores of attitudes towards HIV/AIDS patients and the mean scores of concerns about being HIV-infected from service provision in the pre-test, post-test, and follow-up periods, repeated measure analysis of variance was used. If it was found that the mean scores differed in each period, repeated ANOVA and Bonferroni's test were conducted. All data were analyzed using SPSS VERSION 21.

RESULTS

1. Demographic characteristics of the samples

Most of the participants were female (n=66), 78.6 percent, and male (n=18), 21.4 percent. The sample had an average age of 30.39 years (S.D. = 4.11), divided into medical personnel (n=26) 31 percent, medical support personnel (n=27) 32.1 percent, and general support personnel (n=31) 36.9 percent. All samples were Buddhist. It was found that those who worked for less than five years (n=29) accounted for 34.5 percent, those who worked for 5-10 years (n=48) accounted for 57.1 percent, and those who worked for more than ten years (n=7) accounted for 8.3 percent. The sample had knowledge about HIV/AIDS(n=31) accounted for 36.9 percent and lack of knowledge about HIV/AIDS (n=53) accounted for 63.1 percent.

2. Attitudes toward providing services for HIV/AIDS-infected patients

Mean scores of the samples in the pre-test period, the post-test (day 3), and follow-up (day 15) periods (M=17.25, S. D=1.051; M=29.68, S.D=3.050; M=48.95, S.D=8.445=17.05 respectively) as shown in Table I. The variance analysis found that the mean of the samples at the post-test (day3) and follow-up periods (day14) was significantly higher than the pre-test at the significant level of .01 ($F_{2,166}$=900.853, p< .01). There was a statistically significant direct influence between the experimental periods at the .01 level; therefore, a pairwise comparison test using Bonferroni's test was conducted, as shown in Table II.

Table I: Means and standard deviations of attitudes and concerns about being infected with HIV from service provision (n =84)

Variables	Pre-test		Post-test (Day3)		Follow-up (Day15)	
	M	S.D.	M	S.D.	M	S.D.
Attitudes towards providing services for HIV/AIDS-infected patients	17.25	1.051	29.68	3.050	48.95	8.445
Concerns about being infected with HIV from service provision	40.81	5.476	29.68	3.050	12.69	1.456

3. Concerns about being infected with HIV from service provision

Mean scores of the samples in the pre-test, period post-test period, and follow-up period (M= 40.81, S.D=5.476; M= 29.68, S.D= 5.476; M=12.69, S.D=1.456, respectively) as shown in Table I. The variance analysis found that the mean of the samples at the post-test (day3) and follow-up period (day14) was significantly higher than the pre-test period at the .01 level ($F_{2,166}$=1199.500, p< .01), there was a statistically significant direct influence between the experimental periods at the .01 level; therefore, a pairwise comparison test using Bonferroni's test was conducted, as shown in Table II.

Table II: Comparing the differences in mean scores of attitudes and concerns about being infected with HIV from service provision (n=84) (A pairwise comparison test using Bonferroni's test)

Comparison results	Mean difference		
	Pre-test	Post-test (Day3)	Follow-up (Day15)
Attitudes toward providing services for HIV/AIDS-infected patients			
Pre-test		12.429**	31.702**
Post-test (Day3)			19.274**
Follow-up (Day15)			
Concerns about being infected with HIV from service provision			
Pre-test		11.131**	28.119**
Post-test (Day3)			16.988**
Follow-up (Day15)			

Note. ** p < .01

DISCUSSION

The results show that the program reduces stigma and discrimination of HIV/AIDS patients, can increase positive attitudes, and ease concerns about being HIV-infected from service provision among health staff. Providing services for people with HIV/AIDS is discussed as follows:

Attitudes toward providing services for HIV/AIDS-infected patients during the post-test and follow-up period were higher than before the pre-test period. On the other hand, concerns about being infected with HIV from service provision during the post-test and follow-up periods were lower than before the pre-test period. This is due to the activities that the staff learned and practiced. It can be seen that reflects ideas through images. The participants discussed and expressed their opinions together. Moreover, each group discussed only the action or what happened in the picture according to the actions of the health staff toward HIV patients and people suspected of being infected. It leads to introspective exploration or learning and reflecting on the experience, which improves and changes the person's attitude. Similar to Raktha-ngam (9) described learning through self-inquiry in the search for "truth" that is related to daily life and can be linked to finding human values. From the literature review, the study of Ko and Feng (10) reveals that nurses with higher knowledge scores held a more positive attitude toward HIV/AIDS (p < .001), a lower perceived risk of HIV/AIDS infection (p < .001), and a higher willingness to care for HIV/AIDS-positive patients (p =.001). Moreover, they mentioned that nurses with a greater knowledge of HIV/AIDS protection and prophylaxis after occupational exposure are more willing to care for HIV/AIDS patients. The concerns about being HIV-infected from service provision among health staff. Found that provided facts and information based on academic principles by using real-life situations and knowledge about HIV infection

prevention. The group analyzed the situation or events related to the care or treatment of HIV-infected or procedures that have high risks or low risks based on their knowledge and theory. It can be seen that accurate knowledge and understanding lead to adjusting. Similar to the concept of Zimbardo and Ebbesen (11), which shows that if a person has accurate and explicit knowledge, it leads to understanding, which ultimately results in appropriate and suitable expression. There are three components to a person's attitude namely, knowledge (the cognitive component), feelings (the affective component), and behavior (the behavioral component). Moreover, it further explained that attitudes or sentiments of a person arise from ignorance or having knowledge that is not clear or precise, leading to the idea of considering what is right and what is wrong, which will relate to and is related to a person's feelings (11). This leads to concern, and self-defense which may manifest in behavior differently.

The personal information of the sample showed that most of the participants were not directly responsible for HIV work, and most were part of support groups that had no explicit knowledge of HIV/AIDS. The sample was made up of general support personnel (n=31) 36.9 percent, and medical support personnel (n=27) 32.1 percent, and through in-depth interviews, it was found that there was still a lack of new knowledge regarding the treatment and prevention of HIV infection. Moreover, the deep-rooted ideas and beliefs from society about the causes of HIV infection are based on inappropriate behavior such as drug use, having sex with someone other than your partner, and being homosexual. The lack of new knowledge could also be due to a misunderstanding based on the old perception that if one contracts HIV, there is no cure, and the body will weaken leading to an early death. This leads to fear and anxiety in providers about contracting the virus from administering medical services, consequently reflected in their behaviors such as excessive self-protection or queue management provided to the specific group beyond the general patients (12). As similar to the study of Aziz, Abdelrheem, and Mohammed (13), the results found that healthcare providers had worries about contracting HIV infection from their patients (75.8% of physicians and 77% of nurses); moreover, half of the participants had worries about the safety of performing blood investigations on PLHIV (54% of physicians and 59.9% of nurses). There are studies in Nakhon Sawan Province, Thailand about concerns and attitudes of stigma and discrimination among providers of HIV/AIDS patients in health facilities, including concerns about HIV prevention, the environment in health facilities, and the policy of the institution. According to research, the concerns were at a moderate level. This may be due to the possibility of direct contact with blood, which results in anxiety about the possibility of accidents occurring from a lack of medical skills and possibly inadequate medical equipment. In addition, the anxiety about contracting HIV from providing services causes more than half of the staff to protect themselves excessively (12). This is consistent with the study of Hayiwangoh (14), which studied attitudes about AIDS and social stigma in the Muslim community in Pattani Province, Thailand. The study found that there is incorrect knowledge about AIDS that is not fully covered in all aspects, including the influence of cultural and religious principles that view HIV infection because of inappropriate behavior. This directly affects negative attitudes, leading to stigmatization among patients.

This is consistent with the study research of Phanawong (5), which used the program to reduce stigma and discrimination against HIV-infected people in Akatamnuai Hospital, Sakon Nakhon Province. The finding suggests that the program can help in leading to clear actions to solve otherwise what is 'the problem'? such as having a specific disease clinic and having health staff responsible for each disease, having a one-stop service system, adjusting service behavior attitudes, and improving the skill of history-taking for screening. This may manifest in different ways, either positively or negatively, depending on experience and learning (15). Therefore, this research is an integration of several models to adjust to a positive attitude, which can transform expressions of behavior, speech or fear, and anxiety. The use of programs and activities for staff who work in a hospital is needed to help staff adjust their attitudes, including the mindset of individuals. This leads to open-mindedness in service provision to HIV/AIDS patients, resulting in this group of patients feeling confident to come and receive treatment at the hospital. Ultimately, it leads to a sustainable reduction in stigma and discrimination against HIV/AIDS patients.

Suggestions and further study

1. In regards to suggestions for applying the research results, this program should be extended to other stigmatized diseases/conditions such as psychiatric disorders, drug addiction, or adolescent pregnancy.
2. Suggestions for further research should be undertaken, with long-term follow-up of the program or periodic follow-ups in six months and one year to study the sustainability of the behavior.

CONCLUSION

This research integrates several models to adjust to a positive attitude, which can transform expressions of behavior, speech or fear, and anxiety. The use of programs and activities for staff who work in a hospital is needed to help staff adjust their attitudes, including the mindset of individuals. This leads to open-mindedness in service provision to HIV/AIDS patients resulting in this group of patients feeling confident to come and receive treatment at the hospital. Ultimately, it leads to a sustainable reduction in stigma and discrimination

against HIV/AIDS patients.

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REFERENCES

1. Department of Disease Control, Ministry of Public Health. Measuring HIV-related stigma and discrimination in health care settings in Thailand. Nonthaburi: Nattaporn Plate Registered Ordinary Partnership; 2017.
2. Bureau of AIDS TB and STI, Department of Disease Control, Ministry of Public Health. National Strategy for Ending AIDS 2017 – 2030. Bangkok: NC Concept Co., Ltd.;2020.
3. Data Center, Chawang Crown Prince Hospital. Nakhon Si Thammarat: Chawang Crown Prince Hospital; 2023.
4. Department of Disease Control, Ministry of Public. Stigma and discrimination among health care providers and people living with HIV in health care setting in Thailand. Nonthaburi: Bureau of AIDS TB and STI; 2019.
5. Phanawong N. The results of stigma and discrimination against HIV infected people reduction program in Akatamnauy Hospital, Sakon Nakhon Province. Thai AIDS J. 2019 Jun-Sep;31(3): 125-141. DOI: https://doi.org/10.14456/taj.2019.10
6. Gill HK, Gill N, Young SD. Online technologies for health information and education: a literature review. J Consum Health Internet 2013 Apr 1;17(2):139-150. DOI: 10.1080/15398285.2013.780542.
7. Srisatidnarakoon B. The methodology in nursing research.5th ed. Bangkok: U & I Intermedia; 2010.
8. International Health Policy Program, Ministry of Public Health. A pilot research paper on the development of tools and methodologies to explore stigma and discrimination related to HIV/AIDS in health care settings in Thailand. Nonthaburi: The Graphics Systems Co., Ltd.;2014.
9. Raktaengam H. Self and others (make it a point): tales from an artist's field story therapy. Bangkok: Center for Contemplative Studies Mahidol University; 2022.
10. Ko N-Y, Feng M-C. HIV/AIDS: An Exploration of the Knowledge, Attitude, Infection Risk Perceptions, and Willingness to Care of Nurses. The journal of nursing 2014 Oct; 61(5):43-53. DOI:10.6224/JN.61.5.43
11. Zimbardo PG, Ebbesen EB. Experimental modification of the relationship between effort, attitude, and behavior. JPSP. 1970;16(2): 207–213. DOI: https://doi.org/10.1037/h0029833
12. Chiewpanya W. Factors that affect create concerns, affect the attitude, Stigma and discrimination to health care provider who lived with HIV patients in Nakorn Sawan health Care Service Center. JDPC3 [Internet]. 2021 Apr. 27 [cited 2023 Aug. 29];15(1):30-4. Available from: https://he01.tci-thaijo.org/index.php/JDPC3/article/view/245747
13. Aziz MM, Abdelrheem SS, Mohammed HM. Stigma and discrimination against people living with HIV by health care providers in Egypt. BMC Health Serv Res. 2023; 23 (663):1-9. Doi: org/10.1186/s12913-023-09676-1
14. Hayiwangoh N. Attitude toward AIDS and AIDS-related stigma: A case study of muslim community in Pattani Province. JAR [Internet]. 2013 Jun. 30 [cited 2023 Aug. 29];34(1):107-29. Available from: https://so01.tci-thaijo.org/index.php/asianreview/article/view/92111
15. Junthima K, Sriparu S, Chunthima W. Stigma and Discrimination among People Living with HIV and Health Care Providers, Health Region 9, 2019. Dis Control J [Internet]. 2022 Sep. 26 [cited 2024 Mar. 29];48(3):505-13. Available from: https://he01.tci-thaijo.org/index.php/DCJ/article/view/249224