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Health Promotion Program Based on Appreciative Critical Reflection for Hypertension and Diabetes Mellitus Patients in Primary Care Units

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Abstract

Hypertension and diabetes mellitus are serious health problems. Patients in primary care units or rural area are a marginalized population due to expert accessible difficulties. Cross-sectional survey and quasi-experiment study were conducted to analyze the factors associated with social media usages and to evaluate the results of health promotion program. The study populations were hypertension and diabetes mellitus patients in primary care units, Saraburi province, Thailand. Totally, 156 patients were included based on sample size calculation and multi-stage random sampling for survey study. The volunteers, who were patients in primary care units, were included in quasi-experiment study. A validated questionnaire was used as research instruments. Chi-square or Fischer's exact test and binary logistic regression were applied to detect the associations between factors and social media usages, while paired -T test was used to compare prior and post participation. The health promoting program was based on appreciative critical reflection. The results were: the influencing factors of social were age group, sufficiency of income and education level. The health literacy, attitude and self-care behaviors of 31 volunteers were improved significantly prior after program participation. The suggestion is health promoting program with the principles of appreciative critical reflection used to raise awareness, change attitude and behavior to good behavior in lifestyle diseases should be considered.

Keywords: Health promotion, Appreciative critical reflection, DM., HT.

Introduction

Nowadays, the developments of technologies change society from agriculture to industry and rural to urban community. These transform lifestyles and lead to the health problems of hypertension (HT) and diabetes mellitus (DM). This feature constitutes 46% of the global burden of diseases especially in developing countries. Because of their serious complications such as disability, reduction of quality of life, and global mortality. Thus, it is identified as the most challenging health problems of 21st century (Sophia & Sunny, 2017). DM and HT are common non-communicable diseases. DM and HT are major causes of other health problems, such as blindness, kidney failure, heart attacks, stroke, and lower limb amputation. It was reported that 1.6 million deaths were directly caused by diabetes, and almost half of all deaths attributable to high blood glucose occurred before the age of 70 years. World health organization estimated that 422 million people worldwide were suffering from DM, which accounted for 8.5% of the prevalence among people over 18 years old. The prevalence is increasing among people aged > 30 years old, particularly in low- and middle-income countries (WHO, 2017). In Thailand, Thai National Health Examination Survey (NHES) during 2014 – 2019, data demonstrated that HT and DM affected nearly 20% of Thai adults' health problems (Aekplakorn, et.al., 2020). In 2019, HT and DM constituted of 1,468,433 and 941,226 persons or 2,245.09 and 1,439.04 per 100,000 Population respectively, accounted for outcome lost about 59,670 million Bahts (Srimuang, 2021). The average cost of each DM case in attending hospital services per year was 598US$ for an independent case and 2,700US$ for a disabled case. Therefore, Thailand spends a large amount of money on the health care system annually to manage DM (Chaicharn, Alessandra, 2013). High blood pressure is a key risk factor for many diseases,

including heart attack and stroke. In 2017, WHO estimated that more than one billion people had HT caused 12.8% of all deaths and accounted for 57 million disability-adjusted life years (DALYs) or a total of 3.7% DALYs every year (WHO, 2017). Thailand reported that 29.0% of adult Thais had HT, and only 37.0% for those people who had been diagnosed had their blood pressure under control in 2017. The number of resistant HT patients in all health institutes in the entire country has increased from 3,946,902 cases in 2013 to 5,584,007 cases in 2017 (WHO, 2017). The prevalence of DM and HT varies according to age, sex, and race. There are different factors associated with DM and HT in different populations, particularly among those with different lifestyles and cultures prevention (CDC, 2017). The impact of DM and HT is not limited to physical and mental consequences; rather, it also affects family and national economics (Yashikin, Kravchenko, Yashin, Sloan, 2018). From the Thailand's national statistic organization reported that among a sample of 100,000 Thai people, 69.4% do not concern about their health and did not know whether they had hypertension and diabetes mellitus complications. It should be proactive to prevent cardiovascular risk factors, which will be reduced by self-care. The National Health Security Office proposed an improvement plan for health promotion and primary care services in Thailand. Subsequently, the Thai government assigned health services throughout the country to the campaign of self-care for disease prevention and health promotion in the general population. Primary care persons have been responsible for monitoring and educating those patients identified being at risk The statistics represent the full picture of the situation in Thailand, but there is few information available on any specific subgroup of populations, such as rural area population. Most of them have similar patterns in terms of using alcohol, cigarette smoking, sedentary behaviors and appropriate diet. Therefore, access to secondary and tertiary health care is difficult, especially for those who live very far from the city diet (Sudkhed, et al.,2018).

Evidence indicates that controlling blood pressures, plasma glucose levels and CVD risk factors can protect or extend one third mortality from CVD (DeFronzo, 2010). The main problems were people's lack of concerning and understanding about these diseases and lack of compliance with treatment. (Tawatchai, Pilasinee, Siriyaporn, Thapakorn, 2016). Health professionals in health care institutes must manage the maintenance of plasma glucose levels among DM patients and blood pressure among HT patients using different regiments of drugs for their entire lives. With these demands, there are required numbers of health professionals and large amount of financial input needed to operate the treatment and care system each year. Patients need to frequently attend a clinic to meet and receive care from a doctor but it is a short time meeting. Otherwise, many complications could possibly develop, resulting in intensive and complicated methods of treatment and care. Commonly, DM and HT are diseases that progress slowly from its onset, and it may be diagnosed several years later (WHO, 2017). Hence, there are needs to regularly investigate and self-care those vulnerable to an early diagnosis, decrease complications and determine ways of obtaining a better prognosis, but medical doctors always spend very short time with their patients. Thus, patients need to independently skills, knowledge, and motivation to increase personal results. Many studies of multiple self-care trials showed that lifestyle modification programs were better than usual care in improving clinical results for HT, DM and CVD (Alharbi, Gallagher, Kirkness, Sibbritt, Tofler, 2016). Despite the known benefits, patients face many obstacles in meeting the necessary lifestyle transformations involved in self-care such as poor self-efficacy, and cognitive decline. It may not be surprising that in an era when resources for health promotion are limited and the expectations as to what can be achieved are high (Riegel, et.al., 2017; Swerisssen &Crisp, 2004).

The appropriateness of an intervention for HT and DM aimed at enhancing sense of self, health, self-care agency and personal control. The studies have documented the significant role which patient's mindset (or attitude toward health, life, self) played in determining successful self-care management of HT and DM. The patient's negative mindset interacted dynamically with support systems to create unsuccessful dependence, with frequent readmissions to hospitals. The potential for enhancing patient's mindset and, in turn, participation in one own health and health promotion intervention through application of perspective transformation was thereby identified. The less negative mindset and opposition of self-care program, the more sustainability. (McWilliam et.al., 1999; Peters & Keeley, 2017). The learning process to change attitude is appreciative critical reflection. It is defined as condition of being human. It is that we have to understand the meanings of our experiences. For some, any uncritically assimilated explanation by authority figure will suffice. But in contemporary societies we must learn to make own interpretations rather than act on the purposes, judgments, beliefs, and feelings of

others. It develops autonomous thinking (Mezirow, 1991; Cooperrider, Whitney, Stavros, 2008). Hence, self-care promoting program, which encourage motivation or change attitude, is very interesting.

Currently, social media is popular Web-based tool. 55.7 and 44.2 percentages of people around the world use internet and social media respectively. Social media can be considered one of the most innovative communication. In health care, it has been used to maintain or improve health care communication with people, promote institutional branding. Examples of social media applications in health include (but are not limited to) access to improve possibilities and mean to obtain information about diseases and treatments that go hand-in-hand with the development of social media and Internet technologies, patients are becoming more informed (Eysenbach, 2008). Patients increasingly want to be engaged in their cares. Social media enable users to exchange information and to create media content individually or in community with others. This media is increasingly becoming a tool supporting healthcare processes, gathering and sharing information, bringing people together, encouraging social networking and communication regarding health topics (Rozenblum, Bates, 2013; Eckler, Worsowicz, Rayburn, 2010). Ultimately, the findings of the study could support the development of the health care management for the DM and HT prevention and control measures to decrease risk factors of CVD in primary care units. Therefore, the study aimed to estimate factors associated with health behaviors and develop self-care program via face-to-face and social media of HT and DM patients in primary care units, Thailand.

Objectives

To survey self-care practice and related factors of hypertension and diabetes mellitus in primary care units, Thailand.

To evaluate self-care program based on appreciative critical reflection via face-to-face and social media of HT and DM patients in primary care units, Thailand.

Literature review

To change attitude and health behaviors, transformative learning theory is a change in perspective, meaning or attitude through a learning process and based on the notion that we interpret our experiences in our own way, and that how we see the world is a result of our perceptions of our experiences (Mezirow, 1998). These changes result in the acquisition of new perspectives, attitudes, and behaviors that are integrated into new roles and relationships as these changes integrate with one's own life. Hence, the transformative learning process is centrality of experience, critical reflection, and rational discourse, which is based on critical social theory and psychoanalytic theory (Boyd & Myers, 1988; Scott, 2003). The process of transformative learning takes place through the reflection of the individual with the reflection of critical thinking (contemplation of conversation by reflecting on important ideas, both emotional and rational). Perspective transformation explains how the meaning structures that adults have acquired over a lifetime become transformed. These meaning structures are frames of reference that based on the totality of individual cultural and contextual experienced and that influence how they behave and interpret events (Mezirow, 2000).

Transformative learning occurs when individual change their frames of reference by critically reflecting on their assumptions and beliefs and consciously making and implementing plans that bring about new ways of defining their worlds. The theory describes a learning process that is primarily rational, analytical, and cognitive with inherent logic (Grabov, 1997). If transformative learning is about differentiating the self from the collective through bringing unconscious to consciousness as the depth psychologists propose, then it is about defining the self-humanist goal. The cognitive rational approach to transformative learning is also concerned with freedom, autonomy and choice. People make a choice to engage with an alternative perspective (Gardner, Fook, White, Lehmann, 2006). The transformative learning was explicit in constructivist assumptions. The conviction that meaning exists within ourselves rather than in external forms such as books and that personal meanings that we attribute to our experience are acquired and validated through human interaction and experience. Transformative learning is a process of examining, questioning, and revising those perceptions. If we were to take the philosophical perspective that there are universal truths and constructs that are independent of our knowledge of them, then the goal of education would be to find those truths (Taylor, 2009). Research suggest that deep and

long-lasting perspective transformation can occur within times of significant change as the result of the specific combination of individual and collective processes. Fostering transformative learning is time consuming, particularly when an effort is being made to provide access to all participants' voices as well as coming to consensus around various group decisions. Furthermore, working with rigid time period poses additional challenges when engaging intense personal experiences that cannot be resolved by the time class is over. These efforts are further compromised with a traditional classroom setting with short class period. A shift in perspective is the outcome of learning. Therefore, theory related to individual learning in the midst of change can provide a conceptual platform to propose a similar group level process. To make the leap from insights and behavior change at individual level to comparable results at the group level calls for incorporation of theories that uphold similar principles of the nature of the person, of learning, of the organization, and of change. At the organizational level, attempts at altering strategy, operations and culture imply that shifts in performance will occur due to changed or enlightened perspectives (Taylor, 2009; Gaedner, Fook & White, 2006). Lange ***(2004)*** reported that transformative learning was largely the result of storytelling. Participants used metaphors to describe their experiences. The process of learning for transformation was both emotional and rational in conjunction with external events. This enabled the process of learning for change to successfully change attitudes. Tenant (1991) told that while a change of perspective could lead to intellectual development, it has been not always lead to psychological development. Teachers or facilitators need to be careful about putting too much expectations on students.

Taylor (2009) demonstrated that 6 core elements for transformative learning comprised of experience, critical reflection, dialogue, holistic orientation, awareness of context, and an authentic relationship and practice. Individual experience, the primary medium of transformative learning, consisted of what each learner brings (prior experiences) and also what he or she experienced within the classroom itself. Critical reflection, a distinguishing characteristic of adult learning, referred to questioning the integrity of deeply held assumptions and beliefs based on prior experience. It was prompted in response to an awareness of conflicting thoughts, feelings, and actions and at times could lead to a perspective transformation. Dialogue was the essential medium through which transformation was promoted and developed. However, in contrast to everyday discussions, it was used in transformative learning "when we have reason to question the comprehensibility, truth, appropriateness (in relation to norms), or authenticity (in relation to feelings) of what was being asserted or to question the credibility of the person making the statement". The holistic orientation encourages the engagement with other ways of knowing-the affective and relational. Past research had demonstrated that too much emphasis was given to rational discourse and critical reflection in fostering of transformative learning and not enough recognition of the role of the affective and other ways of knowing. Developing an awareness of context when fostering transformative learning was developing a deeper appreciation and understanding of the personal and socio-cultural factors that played an influencing role in the process of transformative learning. These factors included the surroundings of the immediate learning event, the personal and professional situation of the learners at the time (their prior experience), and the background context that was shaping society. Environmentally one of the most significant contextual issues of transformative learning was temporal constraints. Research had suggested that fostering transformative learning was time-consuming, particularly when an effort was being made to provide access to all participants' voices as well as coming to consensus around various group decisions. Furthermore, working with rigid time period posed additional challenges when engaging intense personal experienced that could not be resolved by the time class was over. These efforts were further compromised with a traditional classroom setting with short class period. A sixth element was the importance of establishing authentic relationship. Fostering transformative learning in the classroom depended to a large extent on establishing meaningful, genuine relationship. Previous research found that establishing positive and productive relationships with others was one of the essential factors in a transformative experience.

. Illeris ***(2004)*** said that theory of transformative learning should encompass much more about the knowledge, understanding, emotions and environment that reflect all individuals in society. Wasserman ***(2009)*** found that critical reflection through storytelling and dialogue could foster transformative learning and changed attitudes. Cranton (2006) described that critical reflection consisted of content, process and premise reflection. Scott (2003) described that social and personal change would occur simultaneously with the interdependence

between organizational change and individual change. Learning for each step of change might be the result of participating in organizational development initiatives.

In conclusion, the main steps of transformative learning are disoriented dilemma, critical reflection on self-examination with reasons and feelings of fear, anger, guilt, or embarrassment, assessment of assumptions and important relationships, perceptions of others' dissatisfaction and the process of change is shared with others new roles, dialogue or discourse in content, process and premise reflection, propose and accept new perspective to change personal, organizational and social perspective. This synthesized transformative learning process based on experience, holistic orientation, awareness of context and authentic relationship and practice. The appreciative inquiry is suitable applied for premise reflection, organizational with social transformation perspective and fostering perspective transformation.

Appreciative inquiry offers a positive way to explore, discover possibilities, and transform systems and teams in the organization toward a shared vision (Cooperrider & Whitney, 2000). Appreciative inquiry adopts a social constructionist view and based on the principles of positive dialogue and collaboration, appreciative inquiry has been reported to be useful in supporting change in self-care practice (Scerri, Innes, & Scerri, 2019). Tapping into the motivations for change by using a positive approach can unlock the collective intelligence and build group capacity (Hung, et al., 2017). Aligned with critical social theory that is the basis of transformative learning, appreciative inquiry supports an egalitarian form of open dialogue. By challenging the dominant hierarchical power relation, appreciative inquiry empowers practitioners to become change agents and to explore innovative practice. People at the point of care are encouraged to engage in practice development project to improve the behavior and move toward shared visions for a better future (Trajkovski, et al., 2015). Bringing persons together to co-create change not only creates means for socially reinforcing change but also increases the potential for a larger impact (Willis et al., 2016). Unlike the punitive style of performance management, appreciative inquiry supports learning and reflection in a positive way (Curtis et al., 2017) The convergence of transformative learning and appreciative inquiry provides such a foundation. Possibilities for joining these theoretical perspectives and practices, and the potential impact of their synergy, will be illustrated through discussion of a new bridging construct, appreciative transformative learning, which builds strength from the union of transformative learning and appreciative inquiry in fostering deep and lasting change. From point of view, change of this nature begins at the individual level and then expands to the group as a direct outcome of individual and collective transformative learning. To result in new behaviors at the organizational level, this change must be embedded in the cognition, memory, and perspective of individuals and the whole. Others have identified this process as collective or organizational learning (Yorks & Kasl, 2002).

In conclusion, the main steps are disoriented dilemma, critical reflection by dialogue or discourse in content, process and premise reflection. propose and accept new perspective. The premise reflection and propose and accept new perspective to change personal, organizational and social transformation perspective consisted of discover, dream, design and destiny. This synthesized transformative learning process based on experience, holistic orientation, awareness of context and authentic relationship and practice.

Materials and Method

This research was a cross-sectional survey and quasi-experiment study of self-care behaviors and associated factors and health promotion program to improve self-care of hypertension and diabetes mellitus patients in primary care unit. A questionnaire was used for DM and HT patients above the age of 20 years interviewing. Informed written consent was obtained. For cross-sectional survey study, the calculated samples were 156 HT and DM patients from in 7 primary care units at Wangmoung district, Saraburi province, Thailand as follow:

$n = Z^2 (pq) / d^2$

n = sample size

Z = 1.96

p = 0.114 (social media using in rural area of Thailand)

$q = 1-p = 0.886$

$d = 0.05$

$n = (1.96)^2(0.114*0.886)/(0.05)^2$

$= 155.14$ or 156 persons

The multi stage proportionated random sampling was conducted. The statistics to test the significant associated factors with social media usages were Chi-square or Fischer's exact test and binary logistic regression.

For quasi-experimental study, data on age, sex, occupation, marital status, income, social media use, knowledge, attitude and personal self-care behaviors that consist of physical activities, stress management, dietary behaviors, smoking and alcohol drinking were collected. The questionnaire was tested for validity and reliability. The content analysis of experts for validity was conducted. The internal consistencies (Chronbach's alpha) were 0.71 and 0.72 for attitude and self-care practice) and KR-21 (0.79, 0.75, 0.78 for functional, inter-relationship, critical health literacy) for reliability. Data were analyzed using paired t-test comparing between prior and after intervention. Inclusion criteria were DM and HT patients in primary care units and more than 20 years old. Exclusion criteria eliminated those who were cognitive impaired or pregnancy. The sample size was calculated to compare the differences in mean change scores on the selected outcome measures of mindset for a medium effect size of 0.80 with alpha set at 0.05 (two-tailed) and beta set at 0.20 was 31 participants. The research has been done under the approval of the Institutional Ethics committee of Mahidol University.

Results

From our cross-sectional survey, totally 156 hypertension and diabetes mellitus patients were included. Only 23 (14.74%) participants used social media. There were 81 (51.9%) women and 75 (48.1%) men. All of them were Bhuddist. 106 (67.9%) participants had spouses. The average age was 62.62 years. For highest education levels, most of them graduated primary school (109 persons or 69.9%). The average salary was 5,444.87 Baht. Most of them had insufficiency income (111 persons or 71.2%). The relationships between general characteristics and social media usages of hypertension and diabetes mellitus patients in primary care units are showed in Table 1. Five factors are associated with social media usages, which are gender, age group, education level, occupation and sufficiency income.

Table 1. The associations of personal factors and social media usage of hypertensive and/or diabetes mellitus patients in primary care units (n=156).

Factors	Social media usage			P value
	Use	Not Use	Total	Chi-square or Fischer's exact test
	Number (percentage)	Number (percentage)	Number (percentage)	
Gender				
Women	3 (3.7)	78 (96.3)	81 (100.0)	<0.001[F]
Men	20 (26.7)	55 (73.3)	75 (100.0)	
Age Group				
< 50 years old	17 (58.6)	12 (41.4)	29 (100.0)	<0.001
>= 50 years	6 (4.7)	121 (95.3)	127 (100.0)	
Marital status				

Had spouse	17 (16.0)	89 (84.9)	106 (100.0)	0.507
No spouse	6 (12.0)	44 (88.0)	50 (100.0)	
Education Level				
Lower than high school	3 (2.2)	131 (97.8)	134 (100.0)	<0.001[F]
High school and upper	20 (90.9)	2 (9.1)	22 (100.0)	
Occupation				
Not work	0 (0.0)	74 (100.0)	74 (100.0)	<0.001[F]
Work	23 (28.0)	5 9 (72.0)	82 (100.0)	

Remark: F is Fischer's exact test

Table 1. The associations of personal factors and social media usage of hypertensive and/or diabetes mellitus patients in primary care units (n=156) (cont.).

Factors	Social media usage			P value
	Use	Not Use	Total	Chi-square or Fischer's exact test
	Number (percentage)	Number (percentage)	Number (percentage)	
Sufficiency of income				
Not enough	6 (5.4)	105 (94.6	111 (100.0)	<0.001
Enough	17 (37.8)	28 (62.2)	45 (100.0)	

For bivariate analysis, the social media usages were associated significantly with gender, age group, education level, occupation and sufficiency income. The multivariate analysis by binary logistic regression showed that the influencing factors of social media usages were age group, sufficiency of income and education level as Table 2.

Table 2. The influencing factors of social media usages of hypertensive and/or diabetes mellitus patients in primary care units (n=156).

Factors	Beta	95% CI		p-value
		Lower	Upper	
Age group	0.036	0.006	0.217	<0.001
Sufficiency of income	10.581	1.687	66.370	0.012
Education level	19.058	1.769	18.467	<0.001
Constant	0.014			0.019

Social media was the way to access information with high technology. The generation and socio-economic status are influencing factors. For instance, the elderly did not use social media because of difficulty to use high technology apparatus. Some people could not afford for social media expense. In this study, the participant asked for his or her family to help them for joining program.

The synthesized intervention contained disoriented dilemma, critical reflection in content, process and premise reflection, propose and accept new perspective by discover, dream, design and destiny. The intervention consisted of face-to-face for 5 days and online utilized LINE application for 28 days. The evaluation of intervention demonstrates that the participants were 25 women (80.6%) and 6 men (19.4%), the average age was 67.5 years old. All of them were Buddhists. The highest education levels of participants were 22 (71.0%) participants in primary school, 6 (19.3%) participants in secondary school and 3 (9.7%) participants in university. Most of them (22 or 71%) had income that were not enough for expenses. The occupations were housewife (19 or 61.3%), work for hire (5 or 16.1%), government officer (4 or 12.9%) and merchant (3 or 9.7%).

Comparison of health literacy before and after participating in the program found that the participants in the program had better health literacy at all three levels, as shown in Table 3.

Table 3. Comparison of prior health literacy and after joining the program

	Prior joining Program		After joining Program		t-test	p-value
	Mean	SD.	Mean	SD.		
Health literacy	50.8	13.6	69.3	8.9	16.2	< 0.001
Self-care Attitude	2.02	0.5	2.34	0.5	2.2	0.032
Self-care Practice	2.41	0.8	2.68	1.0	2.8	0.007

Discussion

Patients in the primary care units or rural area are living with a high burden of DM and HT in Thailand. There are several factors associated with behaviors related to daily living, culture and food practices. Most patients in the primary care unit are elderly population, who are low educated and economic status (Tawatchai, Onn, Sirinan, 2016). Four factors were found to be significantly associated with self-care behaviors, which consisted of age group, education level, sufficiency income and social media uses in this study. This is difference from Tawatchai (2018), which was surveyed in hill-tribe of northern part that there was statistical significance in the proportion of participants with DM and HT by sex that may be from the context and culture of hill tribe and town in Thailand.

This research aims to promote self-care of HT and DM patients by changing attitude and practice together with health literacy enhancement. The researcher has synthesized the process of transformative learning, which consists of disoriented dilemma, critical reflection on self-examination with reasons and feelings of fear, anger, guilt, or embarrassment, assessment of assumptions and important relationships, perceptions of others' dissatisfaction and the process of change is shared with others new roles, dialogue or discourse in content, process and premise reflection, propose and accept new perspective to change personal, organizational and social perspective based on appreciative inquiry. This synthesized appreciative critical reflection which integrated critical reflection and appreciative inquiry based on experience, holistic orientation, awareness of context and authentic relationship and practice. The researcher starts with creating a crisis artificial or stimulating events because participants in this research change their attitudes towards prevention before the crisis occurs. Crisis is cardiovascular disease, therefore analyzed and synthesized events that may occur if the behavior is a risk factor of heart disease and blood vessels such as paralysis from blood in the brain or heart blockage and loss of leg from distal vein thrombosis and obesity in activity from obesity. These create motivation that is a key component that makes participants begin to change attitudes. and behavior according to principle of transformative learning. Health literacy enhancement by using activities such as pretending to be a paralyzed person. From the use of such activities can encourage participants to have awareness of the difficulties of cardiovascular disease well. Fostering new attitudes with the use of social media is convenient and able to share of ideas and reflect the idea very well. Program development using the concept of transformative learning in attitude adjustments can be applied in health promotion activities to create awareness for better practice relevant to the study of Niyomtham (2015) which explained that educational activities based on transformative

learning can change attitude and consistent with the study of Danit, et al.(2009), which described that health promotion program by changing attitude can lead to good health results. Health promotion process to enhance health literacy focused on critical reflection drives decision-making to change attitudes and behavior is consistent with the study of Trezona, et al (2018) and the study of Ngasangsai, et al (2014). Social media use in this research is convenient and continuous to stimulate the participants to have new attitudes to remain consistent with research of Kheokaew, et al (2017), which showed that social media uses lead to increase information and health literacy. From the completion of the program, it was found that after attending the health promotion program participants were more health literacy, good attitudes and self-care practices than before participated in statistically significant activities (p-value<0.05) consistent with (Kitchenham, 2008), which demonstrated that applying the appreciative critical reflection to health promotion program will provide opportunities for connecting new knowledge and changing attitudes with practices. Recommendations from this research are 1) self-care program in HT and DM should be considered implementing the activities with the appreciative critical reflection used to raise awareness, change attitude and behavior to good behavior. 2) Health promotion program should consider using social media to foster, increase accessibility and reflection.

The social media is very comfortable for health promotion program but some people cannot afford for smartphone and expense of social media. Hence, government should subsidize for these to reduce inequality or inequity of health care system.

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