

## **The Power of Living in the Present Moment among Patients with Diabetes**

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### **Abstract**

“Living in the present moment,” a Buddhist concept, was applied in this research. This concept urges the patients to cling neither to the past nor the future as well as being mindful of their body, feelings, mind, and mental qualities. The purpose of the study was to develop a “living in the present moment” model and to evaluate the power of “living in the present moment” in terms of physical and mental results. The study used non-participatory action research with quasi-experimental research design that included 3 camps composed of 6 main activities. The percentages, SD, and paired t-test statistics were used to analyze and compare 17 purposively selected diabetic patients from Pak Thong Chai Hospital before and after they attended the 3 camps. The patients improved significantly in terms of waistline, body weight, body mass index (BMI) and blood pressure (SBP and DBP). The mean of fasting plasma glucose (FPG) level was also changed considerably. The results revealed that the treatment helped the patients to gain self-awareness and self-realization (Yonisomanasikara), as well as knowledge and increased support from friends (Kalyanamitta). They also let go of their attachment to their physical and mental oppressions. This helped the patients to relieve their daily pain, fatigue, insomnia, and diabetes-related complications. About 75% of all patients were able to achieve lifestyle modifications. Therefore, implementation of the model should be expanded and utilized in other diabetic centers. The model might also be expanded to pre-diabetes.

**Key Words:** Buddhist Concept, Living in the Present Moment, Lifestyle Modifications, Diabetes Control

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## **Introduction**

Since 1997, Thailand has had a national health policy with mechanisms to formulate health policy, and data on health systems and functioning has been gathered to generate evidence guided development of the policy and the design of the universal health care system (Selway, 2011). Health systems research stemmed from the field of health services that focus on promoting the coverage, quality, efficiency, and equity of health systems (Alliance for Health Policy and Systems Research [AHPSR], 2007) and public opinion research on the health system enhances benefits the population at large (Yingrengreung, Jinruang, & Kheokao, 2012).

The number of people with diabetes continues to increase every year, especially in low- and middle-income countries (WHO, 2012). Unfortunately, Thailand is inevitably moving towards the burden of this health problem as well. According to hospital records, the number of diabetic patients admitted to state hospitals has dramatically increased by 4.02 times in the 10 years from 1999 to 2009 (Ministry of Public Health, 2012). The health care system needs to continuously deliver high quality care to patients from the day they are diagnosed throughout their life. Promoting a healthy lifestyle for the prevention of diabetes through education and quality information delivered to the public and the management of diabetes represents an enormous challenge for health systems at every level of development (Deerochanawong & Ferrario, 2013).

Diabetes is the second most common disease for patients at Pak Thong Chai Hospital. The most common is cancer; the third is hypertension. Moreover, the number of diabetic patients is increasing every year. From January to October 2012, 2,761 patients were treated at Pak Thong Chai Hospital for diabetes-related complications. (Pak Thong Chai Hospital, 2012).

Common causes for diabetes include patients' poor eating habits, lack of aerobic exercise, anxiety, and stress. Most patients who are unable to control their mind and behavior tend to consume food heavily without thinking, which is a crucial risk factor for diabetes. Additionally, once diagnosed with high blood sugar levels, they choose to increase

their medicine intake instead of decreasing their sugar intake. As a result, the cycle is unbreakable, and the patients continue to increase the risk of diabetes-related complications (Ministry of Public Health [Medical Research & Technology Assessment], 2013).

To help treat the diabetic patients, a process was introduced to improve the patients' knowledge base, attitudes, and behaviors. Therefore, the purpose of the study was to develop a "living in the present moment" model and to evaluate the power of "living in the present moment" in terms of physical and mental improvement of diabetic patients, Pak Thong Chai Hospital, Nakhon Ratchasima. The Living in the Present Moment Model could provide basic information for long term strategic planning for organizations, people, and actions whose primary intent is to promote, restore, or maintain the health of diabetic patients.

### **Objectives of the Study**

There were two objectives of the research:

1. To develop "living in the present moment" model.
2. To evaluate the power of "living in the present moment" in terms of physical and mental improvement.

### **Materials and Methods**

This research was a non-participatory action research study with quasi-experimental research which used 3 camps composed of 6 main activities. Participatory observation, focus group discussion, and in-depth interviews were conducted.

## **Population and Participants**

The population was 119 type 2 diabetic patients, both male and female, who used Pak Thong Chai Hospital. They were residents of the Northern Pak Thong Chai subdistrict zone, Pak Thong Chai district, Nakhon Ratchasima province. (Pak Thong Chai Hospital, 2012).

The participants were further selected to meet the following criteria: 1) diagnosed with type 2 diabetes by a medical doctor, 2) ranged in age from 40-70 years, 3) agreed to attend the diabetic camps (Camps 1-3), 4) did not have any serious diabetes-related complications such as end stage eye disease, kidney disease, foot disease, or other serious illness, 5) before participating in the research study, they were found to have Fasting Plasma Glucose (FPG) levels higher than 130 mg/dl at least twice consecutively in a monthly check, and 6) were able to communicate without assistance. Only 17 out of the 119 persons matched the criteria.

## **Methodology**

### **Phase 1: Development of the “Living in the Present Moment Model”**

1. Study Buddhadhamma under the scope of the Tipitaka and the Theravada texts that are relevant to “living in the present moment” based on the Bhaddekaratta Sutta and the Mahasatipatthana Sutta.

The Bhaddekaratta Sutta teaches us not to think about the past because it is already gone, and the future is not yet come. Only this present moment exists and is real. Thus, we should do our best in the here and now to cultivate the mind and to see the ultimate truth (Nannamoli Bhikkhu and Bodhi Bhikkhu, 1995: 1419-1420).

The Mahasatipatthana Sutta teaches us to be mindful of our body, feelings, mind, and mental qualities. Whatever arises, they are subject to come and go, to pass and decay. Therefore, nothing should be held onto. (Walshe, 1995: 335).

2. Prior to developing the model, the sample's characteristics, which included the participants' socio-demographic, physical, and mental illness status, as well as their Primary Care Unit information were collected and synthesized. This was done in order to assess the patients' problems and needs. At this stage, information from in-depth interviews and focused group discussions were collected from 13 of the 17 participating diabetic patients, and from 5 nurses and 5 volunteers who worked with the patients.

The questions asked about 1) experiences of confronting diabetes, 2) lifestyle modifications that have an impact on diabetes in terms of mindful eating and exercising, 3) mental state and coping with stress, 4) individual problem solving skills and coping with diabetes both physically and mentally, and 5) needs analysis for promoting diabetic patients' health both physically and mentally.

3. Create an integrated model by applying the principle of living in the present moment (from 1) and synthesizing the data (from 2) for coming up with a conclusion that enhances the power of living in the present moment among diabetic patients. The model was based on the Deming Cycle (Plan-Do-Check-Act).

- Planning by synthesizing patients' problems and needs in terms of physical and mental illness, conducting meetings and discussions with related teams, and setting up a schedule.

- Doing by conducting activities for 17 purposively selected diabetic patients three times (Camp 1-3). The length of these activities is approximately one month.

- Checking reliability and validity of the model and organizing a seminar to discuss the model with scholars and specialists in order to solve problems, share contributions, and come up with recommendations.

The scholars and specialists were 1) Phra Paisal Visalo whose mission is to empower the people, 2) Mae Chee Sansanee Satrirasutta practices on the path of living in the present moment, 3) Medical Doctor Ruchira Mangklasiri has direct experience in conducting diabetic camps with similar characteristic participants, 4) Medical Doctor

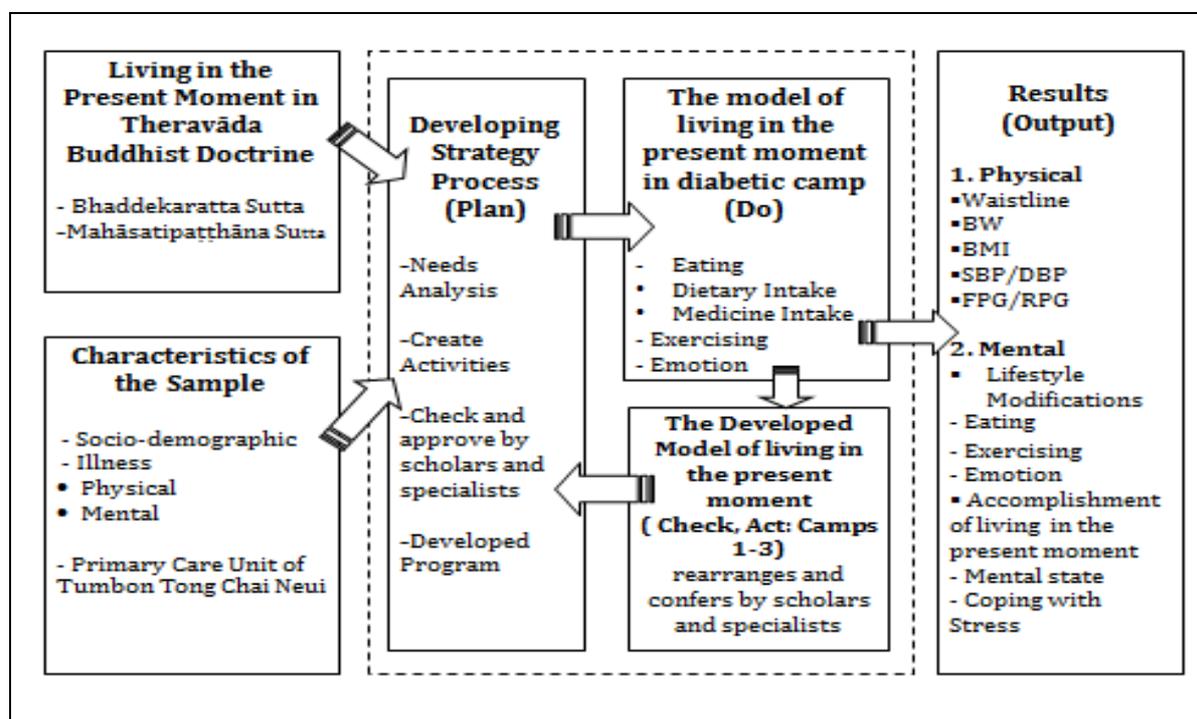
Sakawdien Numsangkul has experience in caring and conducting research for diabetic patients, and 5) Assist. Prof. Ratana Rujirakul has direct experience in working with the community in Nakhon Ratchasima province.

- Acting on the model in accordance with Camps 1-3. The first camp was conducted over 3 days and 2 nights (6-8 May 2013). The second and the third camps were day camps (31 May 2013 and 28 June 2013 respectively).

While acting on the model, the activities were adjusted and applied in accordance with the patients' needs, context, and situation at a particular time.

### The Model

#### "Living in the Present Moment"



## Phase 2: Test of the Model

1. In order to test the effectiveness of the model, two categories of data were collected: 1) physical results and 2) mental results.

1) Physical measures were gathered from quantitative research. The physical measures included:

- (1) Waistline measurements
- (2) Body weight (BW)
- (3) Body Mass Index (BMI)
- (4) Blood Pressure (SBP and DBP)
- (5) Fasting Plasma Glucose (FPG) levels

The statistics used are the mean ( $\bar{X}$ ), Standard Deviation ( $SD$ ), Dependent One-Sample T-Test. Prior to doing the data analysis, the Shapiro-Wilk  $W$  test was used to test the normal distribution of the data because there were fewer than 30 participants.

2) Mental health measures were gained from qualitative research by conducting in-depth interviews and focus group discussion.

The mental health measures included

(1) Lifestyle modifications including food consumption, medicine intake, exercising, and emotion.

(2) Accomplishment of living in the present moment in terms of a mental state and coping with stress.

The questions used were the same as in Phase 1. They were 1) experiences of confronting diabetes, 2) lifestyle modifications that have an impact on diabetes in terms of mindful eating, and exercising, 3) mental state and coping with stress, 4) individual problem solving skills and coping with diabetes both physically and mentally, and 5) needs analysis for promoting diabetic patients' health both physically and mentally.

2. The measures were tested for credibility and truth of findings by triangulation. Additionally, a team of researchers helped to do data collection both by in-depth interviews and participatory observation.

### Ethics Review

This study was approved for the protection of participants by the Ethical Clearance on Human Rights by the Institutional Review Board, Maharat Nakhon Ratchasima Hospital Ethics Committee prior to its commencement. Further, permission and written consent were obtained from all participants. The certificate of approval number was: 010/2013.

### Results

The first objective was achieved through the development of Camps 1-3. The first camp was conducted over 3 days and 2 nights. The second and the third camps were day camps. Six main activities and 16 sub-activities were held in the research camps. All activities are shown in Table 1.

**Table 1**

*The Activities of the Developed Model*

Activities	Sub-Activities
1. Participatory Learning	1) Raising Awareness of Diabetes 2) Food Exchange 3) Fasting Plasma Glucose (FPG) monitoring
2. Total Relaxation	4) Group Total Relaxation
3. Movement Exercise	5) Sanctband Exercise 6) Yoga
4. Counseling Therapy	7) Group Counseling Therapy 8) Individual Counseling Therapy

Table 1 (Cont.)

*The Activities of the Developed Model*

Activities	Sub-Activities
5. Meditation	9) Bell of Mindfulness
	10) Flowers Bloom
Chanting	11) Salutation to the Buddha, Dhamma, and Sangha
	12) the Bhaddekaratta Sutta
	13) the Sutta on extending loving kindness
Dhamma Talks	14) Life leads by the Eightfold Path
6. Walk Rally	15) Greed Awareness
	16) Hatred Awareness

The second objectives, the evaluation of the power of “living in the present moment” in terms of physical and mental results, are as follows.

**Table 2**

*The Participants’ Socio-Demographic Information*

Socio-Demographic Information		Number (Person)	Percentage
<b>Gender</b>	Female	16	94.12
	Male	1	5.88
<b>Age (Years)</b>	>40-49	4	23.53
	>50-59	5	29.41
	≥60	8	47.06
<b>Marital Status</b>	Married	13	76.47
	Single	0	0
	Widowed, Divorced, Separated	4	23.53

Table 2 (Contd.)

*The Participants' Socio-Demographic Information*

Socio-Demographic Information	Number (Person)	Percentage
<b>Number in Family (Persons)</b>		
<3	8	47.06
4-5	5	29.41
≥ 5	4	23.53
<b>Duration of Diabetes Mellitus (Years)</b>		
0-5	8	47.06
5-10	2	11.76
>10	7	47.18

**Physical Results**

Table 3

*Paired Samples Statistics of Before Camp and Camp 3*

Physical Results	$\bar{X}$	SD	t	Sig.
<b>Waistline (cms.)</b>				
Before Camp	92.60	6.40	3.601	.003*
Camp 2	89.33			
Camp 3	90.00	6.32		
<b>Body Weight (kgs.)</b>				
Before Camp	68.93	11.15	2.469	.027*
Camp 2	67.23			
Camp 3	66.87	9.88		
<b>BMI (kg/m<sup>2</sup>)</b>				
Before Camp	26.59	3.81	2.320	.036*
Camp 2	25.98			
Camp 3	25.80	3.32		

Table 3 (Contd.)

*Paired Samples Statistics of Before Camp and Camp 3*

<b>Physical Results</b>	$\bar{X}$	<b>SD</b>	<b>t</b>	<b>Sig.</b>
<b>SBP (mm/Hg)</b>				
Before Camp	135.80	6.52	2.689	.018*
Camp 2	130.93			
Camp 3	127.20	10.83		
<b>DBP (mm/Hg)</b>				
Before Camp	82.67	11.87	.367	.719
Camp 2	79.47			
Camp 3	81.33	8.82		

\* Sig. < .05 indicates that the difference is statistically significant at the .05 level.

According to Fasting Plasma Glucose (FPG) value, it was analyzed by using mean ( $\bar{X}$ ) as shown in Table 4.

Table 4

*Fasting Plasma Glucose (FPG) Value*

	<b>Fasting Plasma Glucose (FPG) Level (mg/dl)</b>				
	<b>Camp 1</b>			<b>Camp 2</b>	<b>Camp 3</b>
	<b>Day 1</b>	<b>Day 2</b>	<b>Day 3</b>		
$\bar{X}$	184.82	184.529	168.176	175.176	172.529

From table 3 and table 4, it can be seen that most of the patients were able to reduce their 1) waistline measurement, 2) body weight, 3) body mass index, 4) blood pressure (SBP and DBP), and 5) Fasting Plasma Glucose (FPG) levels between the “Before Camp” and “Camp 2” sessions. Their figures significantly improved during this period. On the contrary, during “Camp 2” to “Camp 3,” some patients’ measure were not their best value at the end of “Camp 3.”

Overall, there was an improvement in the physical well being of most patients. At the end of the research about 75% of all the patients were able to manage their diabetes through the adoption of a healthy lifestyle.

## **Mental Results**

Most patients made a big determined effort to modify their lifestyle. The patients provided the following commentaries about their experiences.

### **Lifestyle modifications.**

**Eating (dietary intake).** A poor diet was one of the main causes of diabetes and the patients need to pay attention to themselves. Thus, most patients in this study changed their eating habits.

From the in-depth interview, Patient F, aged 53, was representative.

She said, "I eat more mindfully. I eat more veggies and avoid fatty foods... I try to have only vegetables in my meal. I also cut down on my portions. What is too much, I make it less."

Another participant, Patient K, aged 61, declared, "I've changed my eating habits. One day my granddaughter gave me a piece of mango. It was a Barracuda mango. She told me it was not too sweet, and encouraged me to have some. I took a bite and spit it out. I had to restrain myself; otherwise my sugar level would go up. No more mango and no more sweets for me. Only veggies, chilli, and fish are okay. My granddaughter used to buy me soft drinks. Now I told her not to, I stopped drinking sugar-sweetened drinks."

**Exercising.** All of the 17 patients had been staying motivated to exercise regularly. Here are some success stories.

Patient L, aged 52, was representative. She said, "I do a resistive exercise band exercise every day. I lie down and stretch every part of my body. I break out in a sweat

after the workout.”

The patients revealed that their daily pain was relieved as a result of exercising. In this case Patient N, aged 61, was representative. She said, “Exercise helps me to relieve my pain. I choose the ones that are safe and appropriate for the elderly such as sitting, stretching, pulling and extending arms forward and backward.”

**Coping with emotions.** Patients also improved emotionally. They could deal with their life much better than before. Patient F, aged 53, said, “I am happy in my mind. I have a good night’s sleep. I get along with my husband...Before I joined the camp, I used to be unhappy. Now I don’t mind anything. I miss my daughter... she’s in Bangkok. I told her about my camp activities, including my blood test, my dietary intake, my chanting routine. She asked me if there will be another camp, she wanted me to join... I’ve been thinking about a lot of things, and I let them go. During the day after I’ve done my housework, I take a nap in a garden. My husband takes a nap too. There is nothing between us... I try to practice ‘Living in the Present Moment’ in my life and watch where my mind go.”

From the statement, it can be seen that, once the patient knew how to manage her emotions, her weariness was replaced by good sleep. Diabetes related complications were also relieved.

#### **Accomplishment of living in the present moment.**

**Mental state.** In addition to coping better with their emotions, the patients are much happier than before. During the “Camp 2” focus group discussion, they rated their happiness on a scale of 0-10, where zero means not happy and 10 means the happiest they had ever been. There was only one (out of 17) patients that rated herself a 9; the rest gave themselves a 10. They also shared their happiness as follows,

As Patient I, aged 42, stated, “I’m so grateful that I joined this camp. I brought back useful tips to take care of myself. I’m very happy that my sugar level is going down. I would like to thank all the camp team for your support.”

Another example, Patient E, aged 64, stated, “My mind is delighted. Even though I’m

sick, I'm not worried about it. I don't think about anything too much. I'm happy. I'm fortunate."

Once the patients are happy and cherished, they are also a great source of inspiration to others as well, especially their love ones and families, including their spouse, children, and other relatives. Patient P, aged 54, told an inspirational story, "I've let down and detached myself from a lot of things. Once I return home, I free my mind from my children. I'm not worried what he or she is doing, or when he or she will come home. Now I have a good night's sleep. I go to bed whenever I feel sleepy... I've been thinking about what I've learned from the camp. There is no use for me to be worried, because it's just made me miserable. So it's better for me to let go of my thoughts... Before, I used to call my husband and ask him where he is. Now I don't call and ask for him anymore. Since my husband knew that I've stopped looking for him, now he doesn't really go anywhere and has stopped drinking too."

***Coping with stress.*** The diabetic patients learned to manage their stress by practicing "living in the present moment." The more they are in the present moment, the more they can manage their stress. Patient B, aged 44, revealed, "If there is no stress, my sugar level won't go up. Now I can let my mind go free of thoughts for a little while, but not all the time as yet. I can't stop thinking; I'm working on it though. Sometimes I think about other people. Now I know I should be concerned about myself first. I'm very anxious about when I'm going to die."

In conclusion, there were two factors that helped the patients to cope with their diabetes. The first was the internal factor, "Yonisomanasikara." The patients gained proper consideration, self-awareness, and self-realization, and learned right understanding and right mindfulness from the camp activities. The second was the external factor, "Kalayanamitta." The patients received great support from others, including the camp team and their fellow patients, as evidenced by their comments (see Patients I and P, above) about finding others to be inspiring and feeling grateful to the camp team.

## **Discussion**

The activities in the developed model (Camps 1-3) as well as its atmosphere helped to improve patients' mind and body. The patients were at ease with "Living in the Present Moment." Their mind became calm, cool, relaxed, sharp, and fresh. Being present can dramatically reduce stress and increase happiness. At the same time, the patients were smarter with their food choices and willing to do exercise. The results show that participants had changed and improved significantly from before they first attended camp to camp 3, with a decrease in the average participants' waistline (92.60cm to 90.00cm), body weight (68.93kg to 66.87kg), BMI (26.59 to 25.80), SBP (135.80 to 127.20mm/Hg), and DBP (82.67 to 81.33mm/Hg). The mean ( $\bar{X}$ ) FPG level also went down significantly (from 184.82 mg/dl on the first day of Camp 1 to 172.52 mg/dl on Camp 3). However, the improvement slightly declined during "Camp 2." This revealed that patients were able to cope with their diabetes.

The results showed that enhancing patients' mental well-being by practicing "Living in the Present Moment" improved patients' physical well-being. Being mindful helped the patients to be able to control their eating habits, keep exercise routines, and cope with emotions, which are healthier lifestyles for people with diabetes. This concept correlates with the Buddha's teaching, "the mind is the forerunner" (Nyanaponika Thera & Bodhi Bhikkhu, trans., 2010: 7). That is, the mind is the most dominant factor and when people's minds are intended, accepted, and inspired they will be prepared to carry out whatever actions are required.

The 6 main activities and 16 sub-activities provided new information for the patients. At the same time, patients were encouraged to forgive and forget the bad memories and situations that they had faced in life. For instance, a "Problem Solving Counseling and Therapy" session was developed. The important part in this session was the "Alms Round Distress" activity, which involved giving out all the distress one has in life as an act of virtue. This activity helped to make patients stress free and relaxed. The

patients were able to discover their own feelings, be more open minded, and get rest during the research camps.

In neuroscience, this can be explained in terms of body and mind connection. This connection affects the brain and the neuron system. Normally, the human brain receives messages from the external world emotionally rather than intellectually. We tend to think negatively, influenced, shaped, and painted in accordance with our past history. Positive thinking can be created by continuously practicing it until the brain creates new “synaptic changes.” This allows us to receive messages from the external world intellectually. Then, right thinking occurs. (Hayward & Varela, 1992: 182-186). This mindfulness practice is called the practice of “living in the present moment” (Nhat Hanh, 2002: 24-25).

As patients experienced the positive seeds of self-awareness, they were being kind to their body and mind. The diabetic patients were determined to monitor their dietary intake, exercise routines, and coping with their emotions. Once negative thoughts occurred, the patients were able to acknowledge them and, with wisdom, transform them. These are the results of “living in the present moment” (Phra Brahmaganabhorn (P.A. Payutto), 2007: 702-703; Dalai Lama and Chan, 2005: 63). Then, this leads to the positive physical and mental power of “living in the present moment” among diabetic patients.

### **Conclusion and Recommendations**

The results of the study show that “living in the present moment” helped to improve the quality of life of the diabetic and helped them to maintain their physical, mental, social, and spiritual well-being. The developed model provides different kinds of activities to help patients with their lifestyle modifications. These helpful sessions offered: 1) Knowledge, 2) Total Relaxation, 3) Movement Exercise, 4) Problem Solving Counseling and Therapy, 5) Meditation, Chanting, Dhamma Talks, and 6) Walk Rally to diabetes patients.

Thus, the following recommendations were proposed.

1. Health care workers at PCU should be trained and practice “Living in the Present Moment” in order to recognize, understand, and be clarified of the concept. The practice will help to develop workers’ characteristics and attitudes, which will help to improve professional healthcare services. The benefits will be shown in a variety of ways including; strong and open minded, maintaining a positive attitude, being friendly and cooperative, having a good heart (as inner beauty) to assist and respect others, performing their duties with a happy heart, be a great *kalyāṇamitta* who supports and encourages patients to cope with diabetes.

2. The developed model provides different kind of activities to help patients with lifestyle changes including eating habits, keeping exercise routines, and coping with emotions. Therefore, the concepts and activities from this study should be expanded and utilized in other diabetic centers. For further benefits, the model should be developed for pre-diabetes patients as well

3. Opinion on life satisfaction of the patients and health care providers using the Model should be conducted to gain a broader perspective, which could improve national health care policy formation and management.

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