Effects of Buddhist Doctrine-Based Practice on Fear of Cancer Recurrence and Hopelessness: A Randomized Controlled Trial

Benyaporn Bannaasan, Linchong Pothiban, Totsaporn Khampolsiri, Songserm Seangthong

Abstract: Fear of cancer recurrence and hopelessness are apparent and persistent psychological problems following primary treatment among survivors of breast cancer. These feelings negatively affect cancer recurrence, adjustment, and the quality of life among survivors. This study examined the effectiveness of a Buddhist doctrine-based practice in reducing fear of cancer recurrence and hopelessness. Participants included 59 survivors of breast cancer, who received primary treatment only, and who were 1-3 years post-diagnosis and cancer-free. Twenty nine were randomly assigned to the experimental group and 30 to the control group. The experimental group received a 9-day intervention consisting of three sessions of group education, two sessions of group training, and 8 days of home practice (self-training in critical reflection). Data were collected using the Concerns about Recurrence Scale and the Beck Hopelessness Scale. The Friedman test and Mann-Whitney U test were used in data analysis

Results indicated that fear of cancer recurrence and hopelessness in the experimental group was significantly less than the control group at all measuring points. There was a significant difference in fear of cancer recurrence between the two groups at 2 weeks and 1 month after completing the intervention. Also, there was a significant difference in hopelessness between the two groups at 1 month after completing the intervention. Thus, healthcare providers can use this intervention to reduce fear of cancer recurrence and hopelessness among survivors of breast cancer after completion of primary treatment. However further studies are recommended, with a longer duration to assess the long-term impact of the intervention.

Pacific Rim Int J Nurs Res 2015; 19(4) 295-310

Keywords: Buddhism, Breast cancer, Fear of cancer, Hopelessness, Survivor, Randomized Controlled Trial.

Introduction

Breast cancer is the most common cancer, and has the highest incidence of cancer among women in many countries,[1-3] including Thailand.[4] While its incidence is increasing, the death rate from this cancer is decreasing in many countries,[1-3] and a survival rate of >5 years is becoming more common. Fear and hopelessness are apparent and persistent psychological problems in all

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cancer survival periods. Fear of cancer recurrence (FCR) is one of the greatest concerns and it is the most frequently endured unmet need among adult survivors of cancer.[5] Hopelessness has been reported as increasing the risk for suicide in persons with cancer,[6] and its effect may be sustained for at least ten years after diagnosis.[7] Furthermore, giving hope is an important factor in supporting survivors to overcome their obstacles and difficult situations.

Currently, very few interventions to reduce FCR[8-10] and hopelessness[11-13] have been reported. Moreover, studies of using interventions have had limitations, including lack of a control group,[8,11,12] small sample size,[8,11,13] and the need for a specialist to conduct the intervention.[12] In addition, all of these interventions were designed based on a Western perspective which may not be applicable to Thai people who are different in their way of living, thoughts and culture. It is noteworthy that half of the interventions studied were related to religion.[9,10,13] Descriptive and qualitative studies have indicated that religious practices can help survivors of cancer cope with FCR[14-16] and hopelessness,[16-19] and enhance hope[19] in both Western countries and Thailand. For Thai survivors, Buddhist practices help them understand and accept their present situations and realities[16,19] a state being designated as "wisdom" in Buddhism. Given that the Thai population is approximately 94.6% Buddhist,[20] Buddhist practices aimed at enhancing wisdom may be effective and appropriate strategies for reducing FCR and hopelessness in Thai survivors.

As mentioned, Buddhist practices have been reported as beneficial for decreasing FCR and hopelessness, but a program specifically aimed at eliminating the sufferings arising from thinking directly, has not been undertaken in Thailand. Moreover, the potential effectiveness of the Buddhist Doctrine-Based Practice (BDBP), utilizing 'right thinking' to deal with the sufferings, and aiming to reduce FCR and hopelessness in Thai survivors with breast cancer, needed to be tested. This testing is described in this article.

Review of Literature

In Buddhism, FCR and hopelessness are considered to be suffering that arises from certain thinking that is caused by craving (*Tanhã*), and this is the great motivating factor behind all actions of deluded man. To reduce FCR and hopelessness, survivors with breast cancer need to understand the truths of life,[19] encapsulated in Buddhist teaching as the Four Noble Truths: understanding the existence of suffering, the causes of suffering, the cessation of suffering, and the path leading to cessation of suffering. To understand these truths, individuals need to contemplate the relationship between cause and effect, the true nature of reality. This understanding is known as wisdom, which can be enhanced through Buddhist practices, especially by practicing a way of thinking that could eliminate wrong thought. Wisdom is the essence of Buddhism because it is a tool to help humans understand the truth of life, and use this understanding to exit from sufferings. In Buddhism, FCR and hopelessness arises from thinking, therefore, wisdom caused by 'right thinking' in the Buddhist way (*Yonisomanasikãra* or critical reflection), specifically based on the Four Noble Truths, may be an effective strategy for managing these types of suffering. This approach to suffering has been used since the Buddha era, 2,600 years ago, and in many ways this approach covers all of Buddha's teachings.[21]

No previous studies have examined the effect of BDBP on FCR or hopelessness. Therefore, in designing this study, the principal investigator (PI) surveyed interventions based on influencing ways of thinking that either reduced negative emotions, "suffering," such as anxiety,[22] anger,[23] depression,[24] or increased positive emotions, happiness.[25] Three of these interventions[22-24] showed decreased negative emotion immediately and 2 weeks after treatment, in individuals with chronic depression and students in grades 10-12. In these studies, participants engaged in formal critical reflection practice for 90-120 minutes, with 7-23 hours of

mindfulness meditation practice at home. In all of the above interventions, the Four Noble Truths were used as the method of critical reflection. In terms of educational models to teach these truths, one study used ten methods[22] (for example, relative method; three streams method; true and artificial value method), one study used four of these methods,[23] and two used the Four Noble Truths as method.[24-25]

Therefore, in accordance with three interventions,[22-24] this study utilized Buddhist doctrine based on the critical reflection of the Four Noble Truths as a study framework. This framework includes four steps.[21] The first aims to help the person understand the existence of suffering. Second, the person engages in an investigation of the causes of suffering and factors involved. Third, the person contemplates the cessation of suffering, and in the last step studies the path leading to cessation of suffering, as laid out in Buddhist doctrine. This path relies on critical reflection to cut off the thinking process, which normally generates suffering by allowing feelings to change to be craving (*Tanhã*) which is the source of all suffering. This process of interrupting this chain of events in the human mind helps people to have right understanding (wisdom),[21] which is a significant factor in trying to solve suffering.[26]

To enhance wisdom, this BDBP included 1) education in three topics: life according to a Buddhist perspective, the Four Noble Truths, and *Yonisomanasikãra* (critical reflection); and 2) training and practicing critical reflection. These two lessons were designed partly to generate 'right faith' (confidence in the Buddha's teachings), a tool necessary to allow critical reflection to take hold.

In summary, the broad goal of the BDBP was to help participants, understand the truths of life, increase wisdom, and thus be released from all craving (*Tanhã*) and attachment (*Upãdãna*), which are the causes of suffering. And more specifically to the context of this study, the goal was to use this process to reduce two particular types of suffering, FCR and hopelessness. Thus, the following hypotheses were tested:

1. Survivors of breast cancer receiving BDBP have lower FCR and hopelessness than before entering the program.

2. Survivors of breast cancer in the experiment group receiving BDBP have lower FCR and hopelessness than those in the control group.

Method

Design: A two group pretest-posttest control group design was used to test the effects of BDBP on FCR and hopelessness among survivors with breast cancer; immediately (day 9), at 2 weeks, and at 1 month after finishing the intervention.

Sample and Setting: Participants were sought from women who: were diagnosed with stage I, II, or III breast cancer by a physician; had completed treatment with surgery, chemotherapy, radiotherapy or combined therapy; were 1-3 years post-diagnosis and cancer-free; and recruited from the outpatient departments of three tertiary hospitals in central Thailand. Additional inclusion criteria were: aged 25-70 years; self-identifying as Buddhist; oriented to time, place and person as assessed by questioning; able to read, write, and understand the Thai official language; willing to participate in the study; and willing to be contacted by phone. Exclusion criteria were having been diagnosed with cancer in sites other than the breast, and having severe complications from their health problems that mitigated against program participation. Discontinuation criteria were: voluntary withdrawal from the the program or not completing same. The sample size in this study was estimated using power analysis[27] with a significance level of .05, a power of .80. There has been no study conducted on FCR and hopelessness using Buddhist doctrine as an intervention in Thailand or other countries. Therefore, the effect size could not be calculated and an estimated one was used. As stated by Polit and Hungler[2,8] effect size ranges from .20 to .40, and so the effect size of .40 was used. Therefore, the sample size required was 72

participants. Fourteen extra participants were added to allow for an attrition rate of 20%, giving a total of 86. Participants were randomly assigned to the control group or the experimental group using the permuted block design. The PI met problems while collecting data because few survivors of breast cancer who met inclusion criteria were willing to participate. After five months of data collection, survivors meeting inclusion criteria and agreeing to participate in the experimental group and control group numbered 29 and 31, respectively. At that point, the effect size and the power were calculated at .49-.54 and .80-.90, respectively so data collection was stopped. During posttest, one participant from the control group was dropped due to researcher inability to make contact with her. In sum, 59 participants completed the study; 29 in the experimental group and 30 in the control group (Figure 1).

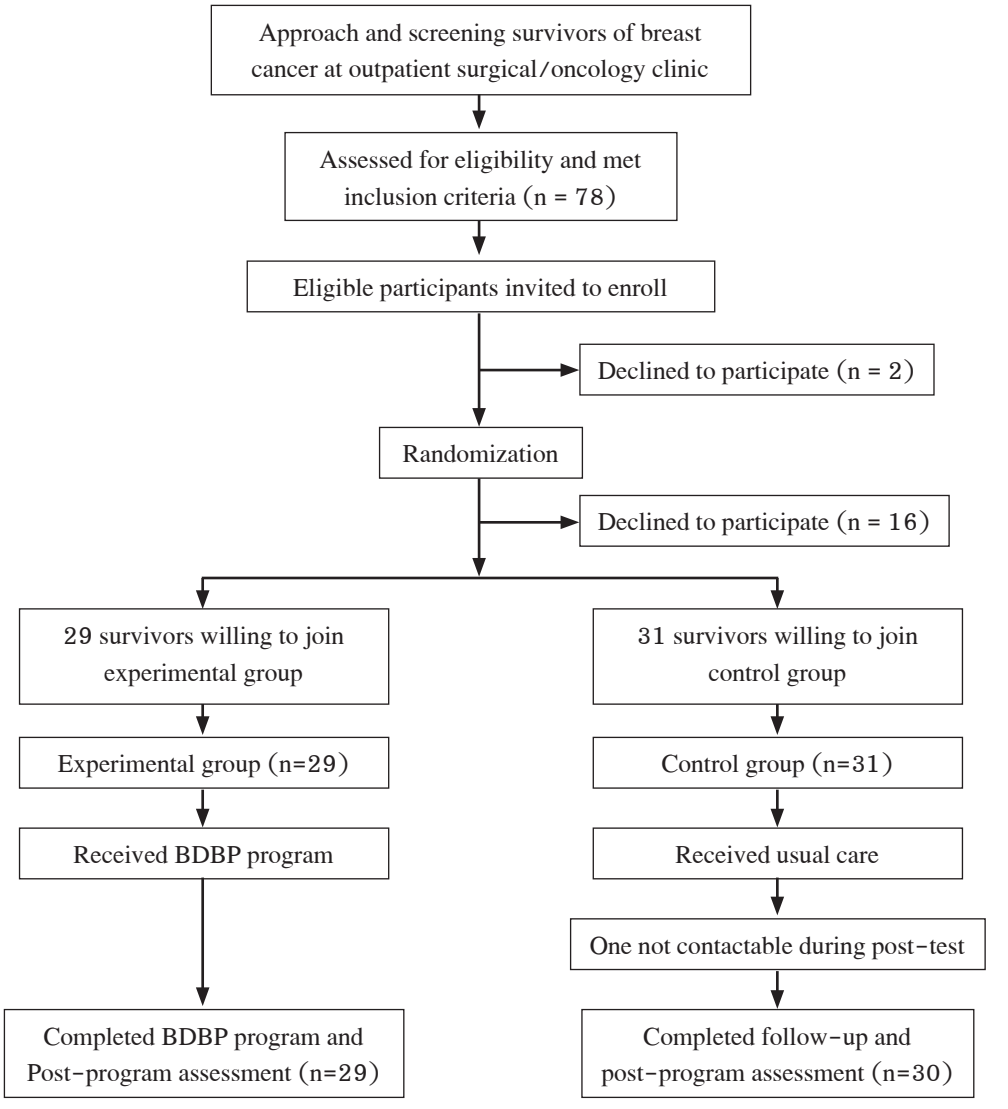

Figure 1 Flow Diagram of Study Participants' Enrollment in the Program

Ethical Considerations: Study approval was gained from the research ethics committees of the Faculty of Nursing, Chiang Mai University and the three tertiary hospitals involved in central Thailand. Moreover all potential participants were informed about the objectives of the study, the process of research, benefits and potential risks, the time used in the study, their rights to privacy, confidentiality, study withdrawal without losing health care service benefits, and were given opportunities to ask questions. All signed a consent form.

Instruments: Three instruments were utilized for data collection:

A demographic data recording sheet, developed by the PI, was used to collect personal data including age, marital status, education level, occupation, number of children, family income, time since diagnosis, TNM staging of cancer, and type of treatment, chemotherapy regimen, and other health problems.

The Concerns about Recurrence Scale (CARS), developed by Vickberg,[29] was used to measure the level of FCR. It contains two parts but only part one was used in this study; this assesses overall FCR and comprises four items: frequency, potential for upset, consistency, and intensity of fears. Each item is scored using a 6-point Likert scale ranging from 1 = I don't think about it at all to 6 = I think about it all the time. An item example is: "How much time do you spend thinking about the possibility that your breast cancer could recur?." Total CARS scores range from 4-24, and are categorized into three levels based on Vickberg's recommendation.[29] A higher score indicates a higher level of FCR while a lower score indicates a lower level of FCR. Based on instrument translation as stated by Sawasdipanich and Tiansawad,[30] the CARS was translated into Thai by an educator expert in English. Then, two bilingual translators then back-translated the CARS-Thai version. The back-translated drafts were compared with the original version. With respect to any discrepancy, the PI sought consensus among the three translators to reach a final agreement.

The Beck Hopelessness Scale (BHS), developed by Beck, Weissman, Lester and Trexler[31] and translated into Thai by Tungjitpakdeesakul,[32] was used to measure hopelessness. It has three sub-dimensions including feelings about the future, loss of motivation, and future expectations. The BHS consists of 20 items which have a true-false response format and each item is scored either 1 or 0. A score of 1 for a true response is assigned to 11 items and a score of 0 for a false response is assigned to 9 items. Examples of questions are: "I look forward to the future with hope and enthusiasm;" and "I might as well give up because I can't make things better for myself." Total BHS scores range from 0 to 20, and are categorized into four levels. The cut-off points used are: 0-3, normal; 4-8, mild hopelessness; 9-14, moderate hopelessness; and 15 and above, severe hopelessness. A higher score indicates a higher level of hopelessness while a lower score indicated a lower level of hopelessness.

Prior to use, the CARS and BHS were evaluated for their content validity by five experts including two nursing instructors, one psychologist, and two Buddhist monks. Their recommendations were adopted to modify the instruments to be more appropriate to the Thai cultural and linguistic context. The scale content validity index (S-CVI) of the CARS was 1.00 and that of the BHS scales was .98. Also, the internal consistency reliability of the instruments were tested with a group of 10 Buddhist Thai survivors of breast cancer who had the same characteristics as the study population. The Cronbach's alpha coefficients for the CARS and the BHS scales were .90 and .92, while the reliabilities in actual study were .90-.94 and .71-.81, respectively.

***The Intervention Program*:** As mentioned previously the BDBP developed by the PI to enhance wisdom with the aim of reducing FCR and hopelessness.

The BDBP consists of six materials for research implementation. All materials were developed by the PI (except the Buddhist Critical Reflection Questionnaire).

Activity plan for the PI describes the intervention activity for the participants, spanning nine days of activities.

Presentation media includes three PowerPoint presentations about the incidence and the effect of problems confronted by breast cancer survivors, life according to Buddhist perspective, and Buddhist critical reflection, a manual of the Four Noble Truths and based upon review of the literature, as well as two VDO scenes about individuals successful at reducing their suffering (these scenes were created by the Bunyanupab Vipassana Centre[33] and Teeneemochit Variety Talk Show [34]).

Scenarios for critical reflection training include five FCR scenarios and five hopelessness scenarios for critical reflection.

A booklet for breast cancer survivors, consisting of two parts. The first part contains an overview of FCR and hopelessness from Theravāda Buddhist perspectives, the benefits of reducing FCR and hopelessness, and the Buddhist way of thinking for managing suffering. The second part is steps for practicing in the Buddhist way of thinking by themselves at home.

A diary recording form of Buddhist critical reflection practice, developed for recording information about participants' critical reflections based on the Four Noble Truths.

The Buddhist Critical Reflection Questionnaire developed by Jaijit[35] was used to measure the Buddhist critical reflection based on the Four Noble Truths.

Prior to implementation, the content validity of the program was examined by five experts (two nursing instructors, one psychologist, and two monks) who assessed instruments utilized for data collection. The experts agreed on the content of the program, but suggested language changes in a manual of the Four Noble Truths and a booklet that would make the information clearer, shorter, and more precise. All recommendations from the experts were adopted to improve the content. The final intervention consisted of two components, namely, education and critical reflection. The activities in this intervention required 9 days with two main activities, namely, group meeting and home practice. (See Table 1).

Table 1 Schedule, Objectives, and Activities of BDBP

Day	Session		Objectives	Activities
1	Group Meeting	1	Create familiarity and help participants recognize importance of FCR and hopelessness.	Introduce self, obtain names of the participants, and explain guidelines. Then, brief participants on incidence and the effect of problems including FCR and hopelessness (30 mins).
		2	Establish moral faith.	Present a video scene about a person who was successful in reducing their suffering using Buddhist doctrine which created by the Bunyanupab Vipassana Centre (20 mins).
		3	Understand Buddhist life perspectives.	Give information about Buddhist life view (30 mins).
		4	Understand Four Noble Truths.	Monk or nun to teach these including suffering, its causes, and cessation, and the path leading to suffering cessation (45 mins).
		5	Understand critical reflection.	Give information about the principle of critical reflection, based on Four Noble Truths (20 mins).

NOTE THIS SECTION OF TABLE TO BE JOINED TO THAT ABOVE.

Table 1 Schedule, Objectives, and Activities of BDBP (continued)

Day	Session		Objective	Activities
1	Group Meeting	6	Train in the critical reflection techniques.	1) Train participants in critical reflection based on the Four Noble Truths in four steps using problem situations, and including FCR and hopelessness; 2) Answer questions and evaluate the critical reflection steps of the participants to ensure their right understanding, correct practice, and to instill confidence (120 mins).
		7	Provision of information about activities participants need to perform at home.	Elaborate activities to be performed at home and give participants materials for research implementation (scenarios, booklet, recording form for critical reflection practices) (30 mins).
1-4	Home Practice		Enhance participants' skills for practicing critical reflection in daily living.	Participants asked to read booklet, practice critical reflection by analyzing and answering questions about scenarios, and recording their critical reflection in a diary recording form (30-60 mins daily).
5	Group Meeting	1	Share experiences of critical reflection process.	Participants share critical reflection of practice at home (90 mins).
		2	Evaluate critical reflection practice.	Evaluate critical reflection steps of participants and ask about problems during practice of critical reflection (60 mins).
		3	Motivate participants to practice thinking.	Present video scene about a person who was successful in reducing suffering using Buddhist doctrine, created by Teeneemochit Variety Talk Show (30 mins).
5-8	Home Practice		Enhance participants' skills for practicing critical reflection in daily living	Participants asked to read booklet, practice critical reflection by analyzing and answering questions of scenarios, and record their critical reflections in a diary, and engage in Buddhist critical reflection practice 30-60 mins daily. Critical reflection for at least 4 hours in eight day is accepted.
9	Group Meeting		Evaluate intervention	Participants evaluate use of critical reflection to attempt to solve FCR, hopelessness, and other sufferings in their daily life after program participation (120 mins).

Usual care: refers to the hospital's routine care activities which are used for survivors of breast cancer conducted by a nursing team and other health care providers at an out-patient department including regular check-ups, medication, and health education.

Data Collection:

Preparing the researcher: The PI studied Buddhist thought, encompassing critical reflection theory, teaching methods, and research. This included practicing critical reflection based on the Four Noble Truths by herself for three months before conducting the program.

Preparing the research assistants: Two research assistants helped to approach and screen survivors of breast cancer at the outpatient surgical/oncology clinic. In addition, two research assistants (a monk or a nun), taught the Four Noble Truths. They received a manuscript of the Four Noble Truths prior to teaching, to ensure consistency and formalization of their expertise.

Data collection procedure: At week 0 (baseline assessment), all three instruments were administered to the participants, and the PI conducted the intervention for the experimental group, with the control group receiving the hospital's routine care activities. All data were obtained again immediately, 2 weeks, and 1 month after finishing the intervention.

Data analysis: Descriptive statistics were used to analyze the participants' demographic characteristics. The Chi-square test and independent *t*-test were used to examine the difference of demographic data and the dependent variables (FCR and hopelessness) between the participants in the experimental group and the control group at baseline. Due to non-normal distribution of the data sets, the Friedman Test was used to test the difference of the FCR scores and the hopelessness scores over a period of time. The Mann-Whitney U Test was used to test the difference between the control and the experimental group at each point of measurement.

Results

All participants in the control group and the experimental group were female (100%). Both groups were similar in all demographic data at baseline in terms of age, marital status, number of a children aged less than or equal to 12 years, educational level, monthly income, sufficiency of income, occupation, and health service expenditure. Also, both groups were similar in time since diagnosis, stage of cancer, and type of treatment (Table 2).

Table 2 Demographic Characteristics of the Participants in the Control and Experimental Groups

Demographic characteristics	Control group (n = 30)		Experimental group (n = 29)		Statistic test value	p-value
	N	%	n	%		
Age (year)						
< 35	0	0.00	1	3.45	-1.13[b]	.262
35-49	11	36.67	12	41.38		
50-64	17	56.67	15	51.72		
> 64	2	6.66	1	3.45		
Range	37 - 67		28 - 65			
Mean, SD	52.96, 9.12		50.44, 7.89			
Marital status						
Single	5	16.67	1	3.45	3.26[a]	.353
Married	20	66.67	23	79.31		
Divorced	3	10.00	2	6.90		
Separated	2	6.66	3	10.34		

Table 2 Demographic Characteristics of the Participants in the Control and Experimental Groups (Continued)

Demographic characteristics	Control group (n = 30)		Experimental group (n = 29)		Statistic test value	p-value
	N	%	n	%		
Having children						
No	7	23.33	3	10.34	.126[c]	1.00
Yes	23	76.67	26	89.66		
Age of children						
≤ 12	4	13.33	7	24.14	1.13[c]	.333
> 12	19	63.34	19	65.52		
Educational level						
No formal education	1	3.33	1	3.45	7.06[a]	.315
Primary school	11	36.67	14	48.28		
Secondary school	3	10.00	5	17.24		
Diploma	1	3.33	3	10.34		
Bachelor degree and higher	14	46.66	6	20.68		
Occupation						
Unemployed	7	23.33	10	34.48	8.79[a]	.268
Government officer	10	33.33	6	20.69		
Officer	2	6.67	0	0.00		
Laborer	4	13.33	5	17.24		
Merchant	2	6.67	2	6.90		
Farmer	5	16.67	3	10.34		
Own business	0	0.00	3	10.34		
Monthly income (baht)						
≤ 2,300	0	00.00	0	00.00	-[c]	1.00
> 2,300	30	100.00	29	100.00		
Sufficiency of income						
Sufficient	21	70.00	14	48.28	2.88[a]	.089
Insufficient	9	30.00	15	51.72		
Health service expenditure						
Government paid	13	43.33	11	37.93	2.44[a]	.486
30-Baht Health Service	14	46.67	17	58.62		
Social insurance	1	3.33	1	3.45		
Self-paying	2	6.67	0	0.00		
Time since diagnosis (month)						
2 - 24	21	70.00	20	69.00	-.62[b]	.537
25- 47	9	30.00	9	31.00		
Range	6 – 47 months		2 – 38 months			
Mean, SD	21.16, 2.14		19.09, 2.18			
TNM Staging of cancer						
I	9	30.00	10	34.48	.169[a]	.919
II	16	53.33	14	48.28		
III	5	16.67	5	17.24		

Table 2 Demographic Characteristics of the Participants in the Control and Experimental Groups (Continued)

Demographic characteristics	Control group (n = 30)		Experimental group (n = 29)		Statistic test value	p-value
	N	%	n	%		
Type of treatment *						
Surgery	30	100.00	28	96.55	1.05[c]	.492
Chemotherapy	12	40.00	15	51.72	1.46[a]	.519
Radiation therapy	21	70.00	15	51.72	2.07[a]	.150
Hormone therapy	26	83.90	23	79.31	.157[a]	.692
Other	0	86.67	1	3.45	1.05[c]	.492
Comorbid diseases *						
No	15	50.00	17	58.62	.158[a]	.446
Yes	15	50.00	12	41.38		
Heart Disease	0	0.00	1	3.45		
Diabetes Mellitus	6	20.00	2	6.90		
Hypertension	9	30.00	6	20.69		
Other	9	30.00	11	37.93		
Present symptoms *						
Pain	13	43.33	16	55.17	.827[a]	.363
Nausea/vomiting	1	3.33	0	0.00	.983[c]	1.00
Hot flash	6	20.00	12	41.37	3.17[a]	.075
Weakness	8	26.66	13	44.82	2.12[a]	.145
Lymphedema	2	6.66	6	20.68	2.47[c]	.145
Other	12	40.00	8	27.58	1.01[a]	.314

Note:[a] = Chi-square test. [b] = t-test. [c] = Fisher's Exact Test. * = each case has more than one sub characteristic.

Regarding FCR, results revealed that there was a significant change of FCR scores over time in the experimental group (p<.000). The score of FCR of the experimental group greatly reduced from 13.96 at baseline to 8.72 immediately, then slightly reduced to 8.27 at 2 weeks and to 7.06 at 1 month, for a total reduction of almost half from baseline. The control group showed no significant difference from the baseline to one month. The score of FCR of the control group slightly increased and changed inconsistently; the score slightly increased from 10.60 at baseline to 10.73 immediately, then slightly decreased 10.40 at 2 week, and to 9.63 at 1 month (Table 3).

Table 3 Comparison of the Fear of Cancer Recurrence Scores at Different Point of Measurement between the Control and the Experimental Groups

Fear of cancer recurrence	Mean (SD)				p-value
	Base line	Immediately after finishing intervention	2 weeks after finishing intervention	1 month after finishing intervention	
Control group	10.60 (4.91)	10.73 (5.11)	10.40 (4.93)	9.63 (5.32)	.107
Experimental group	13.96 (4.93)	8.72 (3.04)	8.27 (3.35)	7.06 (2.90)	.000

Note: Friedman Test.

Comparing the FCR scores between the control and the experimental groups at each point, revealed significant differences in FCR scores at baseline, two weeks after finishing intervention and one month after finishing intervention (p<.05) while the scores at another point were not significantly different. Although, the FCR of the experimental group started from higher score than the control group at the baseline, the score of the experimental group nonetheless reduced to be less than the control group immediately, at two weeks, and at one month after finishing intervention (Table 4).

Table 4 The Difference in Fear of Cancer Recurrence Scores Between the Control and Experimental Groups at Each Point of Measurement

Fear of cancer recurrence	Mean (SD)		Mann-Whitney U Test	
	Control group	Experimental group	Z	p-value
Baseline	10.60 (4.91)	13.96 (4.93)	-2.821	.005
Immediately after finishing intervention	10.73 (5.11)	8.72 (3.04)	-1.387	.082
2 weeks after finishing intervention	10.40 (4.93)	8.27 (3.35)	-1.665	.048
1 month after finishing intervention	9.63 (5.32)	7.06 (2.90)	-1.983	.023

Regarding hopelessness, results revealed significant changes of hopelessness scores over time in the experimental group (p<.000).The score of hopelessness of the experimental group was greatly reduced; at 1 month, the score decreased half from the baseline. It reduced from 6.62 at baseline to 4.89 immediately after the completion of the program, then continued to reduce to 2.96 at 2 weeks, and then did not change further at 1 month. The control group showed no significant difference from baseline to one month. The score of hopelessness of the control group slightly reduced and changed inconsistently; the score slightly increased from 5.13 at baseline to 4.23 at immediately, then slightly increased to 4.38 at 2 weeks, and to 4.36 at 1 month (Table 5).

Table 5 Comparison of the Hopelessness Score at Different Point of Measurement between the Control and the Experimental Groups.

Hopelessness	Mean (SD)				p-value
	Base line	Immediately after finishing intervention	2 weeks after finishing intervention	1 month after finishing intervention	
Control group	5.13 (3.11)	4.23 (2.93)	4.38 (3.74)	4.36 (3.24)	.112
Experimental group	6.62 (3.79)	4.89 (2.94)	2.96 (2.47)	2.96 (2.55)	.000

Note: Friedman Test.

Comparison of hopelessness scores between the control and the experimental group at each point revealed that there was a significant difference of the hopelessness scores at one month after finishing intervention (p<.05), while the scores at other points of measurement were not significantly different. Although, the hopelessness in the experimental group started from a higher score than the control group at baseline, the score of the experimental group nonetheless decreased to be less than that of the control group at two weeks and one month after finishing intervention (Table 6).

Table 6 The Difference in Hopelessness Scores Between the Control and Experimental Groups at Each Point of Measurement

Hopelessness	Mean (SD)		Mann-Whitney U Test	
	Control group	Experimental group	Z	*p*-value
Baseline	5.13 (3.11)	6.62 (3.79)	-1.526	1.27
Immediately after finishing intervention	4.23 (2.93)	4.89 (2.94)	-.901	.184
2 weeks after finishing intervention	4.38 (3.74)	2.96 (2.47)	-1.257	.104
1 month after finishing intervention	4.36 (3.24)	2.96 (2.55)	-1.668	.047

Discussion

The results of this study confirmed the beneficial effects of the program designed using Buddhist doctrine to reduce FCR and hopelessness in the survivors of breast cancer supporting both the hypotheses.

In Buddhism, having wisdom, or in other words, understanding suffering, the causes of suffering, the cessation of suffering, and the path leading to cessation of suffering can lessen suffering and help people find a way to solve problems[21,36] including FCR and hopelessness. As stated in the study framework, FCR can be reduced if survivors understand the truths of life according to a Buddhist perspective: that everything is changeable (impermanent), therefore adherence to things that keep changing leads to suffering. Hopelessness was reduced in survivors by understanding the truth that no one can avoid illness and death, and thus accept the real situation in the present moment instead of wishing that things were otherwise.[37]

In this study, BDBP trained survivors to undergo a critical reflection that enhanced their faith, resulting in increased wisdom. Critical reflection is a type of thinking that functions to cut off wrong thought in the thinking process by not allowing existing feelings to transform into craving.[21] It helps survivors consider everything according to real causes and effects,[38] and to think of practical ways to eliminate the causes of their problems.[39] Considering everything as it really is helps survivors who are suffering with their wandering ideas[21,40-42] about the recurrence of cancer that has not yet happened, by training not to dwell about what will be in the future. It also helped; survivors understand the truth of life: that it is impermanent, suffering, and characterized by non-self. Similarly, critical reflection helped hopeless survivors, who thought negatively toward themselves or about the future by focusing on considering everything according to actual cause and effect, or "looking at things as they really are." These individuals were taught to develop a new mindset, of not being attaching to a future not based on reality[37] resulting in lessening of negative thoughts, and ultimately a decrease in hopelessness.

Another reason why FCR and hopelessness decreased was by developing right faith (confidence in the Buddha's teachings) by *Paratoghosas* (external factors such teacher, the media, books)[21] arising simply from faith in *Paratoghosas*, intending to participate and patiently listening to instruction. When the survivors realized that it is good, they followed the teachings resulting in understanding the truths of life. There were three *Paratoghosas* in this study. The first was a monk or a nun. The survivors had faith in them because they were themselves cancer survivors, had experience in caring for people with cancer at the temple, and had taught and practiced Buddhist doctrine every day. The second *Paratoghosa* was two VDO scenarios about person who were successful in reducing their suffering by using Buddhist doctrine. This gave the survivors faith by providing role models of individuals successfully

doing what the participants were learning in theory. The third *Paratoghosa* was the PI who taught Buddhist doctrine and trained participants in critical reflection. She created faith by telling or sharing her experiences on reducing suffering by using Buddhist critical reflection.

A few studies[8-13] have reported on FCR and hopelessness as the outcome of an intervention. Also, the result of these studies about these parameters could not be compared to this study because the interventions used were different, this study is unique in using Buddhist critical reflection as an intervention to decrease FCR and hopelessness.

Limitation

The number of participants in this study was adequate. However there were difficulties recruiting enough survivors of breast cancer who met inclusion criteria and who were willing to participate in the study may have been too few. Caution is warranted therefore about the generalizability of results and further studies with larger sample sizes are needed.

Conclusion and Implications for Nursing Practice

The BDBP developed for this study was demonstrated to be effective in reducing FCR and hopelessness among survivors of breast cancer immediately, at two weeks, and at one month after finishing intervention. However, further study should evaluate the effectiveness of such a BDBP over a longer duration to identify its long-term impacts. To expand knowledge, further studies should also explore qualitative studies among breast cancer survivors whose suffering was reduced by the program used in this study to reveal the process of cognitive change and to knowhow critical reflection based on the Four Noble Truths reduces FCR and hopelessness.

Nurses can use this intervention to reduce FCR and hopelessness among survivors of breast cancer in the outpatient clinic or oncology care unit. However, nurses need to be educated in Buddhist doctrine about truths of life, trained in self-critical reflection, and intensively trained in Vipassana meditation for at least one month. Additionally, they should implement BDBP in concert with a monk or nun to build faith, which is an important factor in enhancing wisdom among participants.

Acknowledgements

The authors gratefully acknowledge support received from Thammasat University and the National Science and Technology Development Agency. We are also grateful to all participants in this study.

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ผลของวิธีปฏิบัติตามหลักพุทธศาสนาต่อความกลัวการกลับเป็นซ้ำของมะเร็งและความสิ้นหวัง: การวิจัยเชิงทดลองแบบสุ่ม

เบญญพร บรรณสาร ลินจง โปธิบาล ทศพร คำผลศิริ ส่งเสริม แสงทอง

บทคัดย่อ: ความกลัวการกลับเป็นซ้ำของมะเร็งและความสิ้นหวังเป็นปัญหาที่เด่นชัดและคงมีอยู่ตลอดระยะการรอดชีวิตภายหลังการรักษาหลักครบในผู้รอดชีวิตจากมะเร็งเต้านม ทั้งสองปัญหานี้มีผลทางลบต่อการกลับเป็นซ้ำของมะเร็ง การปรับตัว และคุณภาพชีวิตของผู้รอดชีวิต การศึกษานี้ใช้วิธีการวิจัยเชิงทดลองแบบสุ่ม เพื่อศึกษาประสิทธิผลของการปฏิบัติตามหลักพุทธศาสนาเพื่อลดความกลัวของการกลับเป็นซ้ำของมะเร็งและความสิ้นหวัง กลุ่มตัวอย่างเป็นผู้รอดชีวิตจากมะเร็งเต้านม จำนวน 59 รายที่ได้รับการรักษาหลักครบโดยมีระยะภายหลังการวินิจฉัยโรค 1-3 ปีและตรวจไม่พบว่ามีมะเร็งในร่างกาย กลุ่มตัวอย่างได้รับการสุ่มเข้ากลุ่มทดลอง จำนวน 29 ราย และกลุ่มควบคุม จำนวน 30 ราย กลุ่มทดลองได้รับโปรแกรมการปฏิบัติตามหลักพุทธศาสนา เป็นเวลา 9 วัน ซึ่งประกอบด้วย การให้ความรู้แบบกลุ่ม จำนวน 3 ครั้ง การฝึกแบบกลุ่ม จำนวน 2 ครั้ง และการฝึกปฏิบัติที่บ้าน (ฝึกคิดตามหลักโยนิโสมนสิการแบบอริยสัจด้วยตนเอง) เป็นเวลา 8 วัน รวบรวมข้อมูลโดยใช้แบบวัดความกลัวการกลับเป็นซ้ำของมะเร็งและแบบวัดความสิ้นหวัง

เมื่อใช้สถิติทดสอบฟรีดแมน ผลการวิจัยพบว่าความกลัวการกลับเป็นซ้ำและความสิ้นหวังในกลุ่มทดลองต่ำกว่ากลุ่มควบคุมอย่างมีนัยสำคัญทางสถิติตลอดทุกช่วงของการวัด เมื่อใช้สถิติทดสอบแมนวิทนีย์ยูพบความแตกต่างของความกลัวการกลับเป็นซ้ำของมะเร็ง ระหว่างกลุ่มทดลองและกลุ่มควบคุมใน 2 สัปดาห์ภายหลังได้รับโปรแกรม และ 1 เดือนภายหลังได้รับโปรแกรม อีกทั้งยังพบความแตกต่างของความสิ้นหวังระหว่างกลุ่มทดลองและกลุ่มควบคุมใน 1 เดือนภายหลังได้รับโปรแกรม ผลการศึกษาแสดงให้เห็นว่าผู้ให้บริการทางสุขภาพสามารถใช้โปรแกรมการปฏิบัติตามหลักพุทธศาสนาเพื่อลดความกลัวการกลับเป็นซ้ำของมะเร็งและความสิ้นหวังในผู้รอดชีวิตจากมะเร็งเต้านมภายหลังได้รับการรักษาหลักได้ การวิจัยครั้งต่อไปควรติดตามผลระยะยาวขึ้นเพื่อจะประเมินผลของโปรแกรมในระยะยาว

Pacific Rim Int J Nurs Res 2015; 19(4) 295-310

คำสำคัญ: ความกลัวการกลับเป็นซ้ำของมะเร็ง ความสิ้นหวัง มะเร็งเต้านม พุทธศาสนา ผู้รอดชีวิต การวิจัยเชิงทดลองแบบสุ่ม

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