Effectiveness of Buddhist Doctrine Practice–Based Programs in Enhancing Spiritual Well–being, Coping and Sleep Quality of Thai Elders

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Abstract: Spiritual well-being is a major component of human life as it affects one's physiological and psychological well-being. Thus, this randomized control trial aimed to investigate the effectiveness of Buddhist doctrine-based programs in enhancing spiritual well-being, coping and sleep quality of Thai elders.

A sample of 79 Buddhist Thai elders, residing in two rural communities in southern Thailand, was randomly assigned to three groups: Group I (n = 31) practiced Vipassana meditation; Group II (n = 23) practiced chanting; and, Group III (n = 25), the control group, did not practice either Vipassana meditation or chanting. Data were collected on all subjects, before entering the program, and at one, two and four months after Groups I and II completed their intervention program, through use of the: Demographic, Family Status and Religious Experiences Data Sheet; Thai Elderly Spiritual Well-being Scale; Thai Elderly Coping Scale; and, Thai Elderly Sleep Quality Scale. Data were analyzed using descriptive statistics, one-way ANOVA, repeated measures ANOVA, the Kruskal-Wallis test and the Bonferroni test.

Results revealed elders who practiced Vipassana meditation demonstrated significantly better spiritual well-being at one, two and four months after completing their intervention. Those who practiced chanting showed a significant increase in spiritual well-being, only at two months and four months after completing their intervention. The control group demonstrated no significant changes over the three measurements. Although all three groups revealed significant changes in coping, at various times over the three measurements, both the Vipassana meditation group and the chanting group showed better coping than the control group. Regarding sleep quality, both the Vipassana meditation and chanting group, compared to the control group, demonstrated significant increases in sleep quality four months after completing their invention. The study's findings suggest nurses can use Vipassana meditation and chanting as potential enhancements to spiritual well-being, coping and sleep quality of Thai elders.

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Introduction

Thailand, currently, is contending with an increase in the number of aged. Although, the prevalence of aged Thais (60 years and older) was 10.4%, in 2006, it was expected to increase to 11.7% by 2010 and 25% by 2035.[1] This

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progressive rise in the number of elderly Thais has awakened the policy-makers to the need for development of special services for the aged.

Aging is a fact of life. However, it is a multifaceted process that leads to a variety of physical and psychosocial problems (i.e. decline in functionality, chronic illnesses, depression, anxiety, decreased income, social isolation, loneliness, dementia and sleep disorders).[1,2,3,4] All of these factors can have an adverse effect on the psychological well-being of the elderly as they cope with problems of daily life. However, prior research has shown that spiritual well-being can positively influence one's physical and psychosocial health.[5,6]

Therefore, it seems reasonable to examine how spiritual well-being can be fostered in elderly Thais as they deal with various aspects of aging. Since the majority of Thai elders are Buddhist, the approach to fostering spiritual well-being needs to incorporate Buddhist principles that prevent "mind-hindrances" and foster "mind-tranquility".

Review of Literature

Tongprateep[7] has defined spiritual well-being from a Buddhist perspective and believes it includes: a) a state of happiness and satisfaction in one's life; b) having faith and engaging in religious practices; c) having awareness of being human; d) being of value to others; e) expressing love, kindness and compassion toward others; and, f) maintaining one's life in harmony with changes occurring in the environment and society. Prior research has shown the practices of meditation and/or chanting are means of attaining spiritual well-being that can improve one's physical and mental health.[8-14] Interestingly, the use of such practices have been found to foster spiritual well-being in elders and, subsequently, lead to more effective coping behaviors, decreased sleep difficulties and an increased sense of well-being.[4,6,8,9,14,15]

Although meditation and chanting can be practiced in various ways, Buddhists believe, to be beneficial, both must be based on and practiced in accord with Buddhist doctrine.[16-19] Essential elements in the practice of Buddhist principles are generosity (*dana*), morality (*sila*), and mental development (*bhāvanā*).[16,18,19] According to Buddhist beliefs, mental development is a way one's good deeds (*kusala kamma*) can remove greed, anger and false judgment, thereby, keeping the mind pure. Good deeds also can facilitate mental development through the use of two types of meditation: tranquility or development of calmness (*samatha bhāvanā*) and insight (*vipassanā*).[16,18,19] Tranquil or samatha meditation is believed to help one develop concentration (*samadhi*), while Vipassana meditation is believed to help a person develop self-understanding through mindfulness training.[16,18,19] For Buddhists, Vipassana meditation is considered a way of mental development that helps one prepare a path for a life of peace through self-understanding.[20,21] Both types of meditation, however, are based on the Noble Eight-Fold Path, Middle Way or Three-Fold Training (*tri-sikkh*) which involves: morality or sila (right speech, right action and right livelihood); mentality or *samadhi* (right effort, right mindfulness and right concentration); and, wisdom or *panna* (right understanding and right thought).[16] Buddhists believe practices, based on tri-sikkh, help them understand the need to eliminate clinging and realize the three characteristics (*anicca, dukkha and anatta*) of mentality (*nama*) and physicality (*rupa*).[16] Anicca refers to all conditioned existence being in a constant state of flux, while *dukkha* refers to the state of suffering or oppression and *anatta* means not-self or non-self.

Vipassana meditation is viewed by Buddhists as a tool that awakens one's affect, emotions and attitude.[16] Phra Songserm Kesaradhammo notes that Buddhists achieve Vipassana meditation via mind-training that enables them to develop mental stability,

purity, cleanliness, clarity and calmness.[15] Thus, Buddhists believe, through cultivation of self-awareness and mindfulness, one gains intuitive wisdom and enlightenment, and, thereby, becomes free or self-liberated (*nirvana or nibbana*) from suffering, death, rebirth and all other worldly bonds.[16] This process, according to Buddhist doctrine, leads one to ultimate peace and happiness and is why Buddhists believe that Buddha set forth to teach everyone how to witness ultimate truth by living life in perfect harmony with nature and being free from suffering.[16] Thus, peacefulness of mind is the common goal of spiritual practice among Buddhists.[15,16]

In Thailand, Vipassana meditation has been shown to reduce emotional imbalances and decrease insomnia among menopausal women (aged 45-59 years).[21] In addition, it has been noted to improve sleep quality,[22] health status, and mental strength among individuals with HIV/AIDS.[23] In regards to aging, participation in meditative experiences has been shown to reduce individuals' psychological distress and enhance their physical health, ability to relax and cope, and emotional and spiritual well-being/health.[19] Meditation also has been shown to decrease brain wave activity, thereby, facilitating relaxation and decreasing sleep disturbances.[4-6,10] Thus, numerous groups have actively taught and supported the practice of meditation.[5,6,10] Many of these groups have tended to meet together for 8 to 12 weeks and have shown that the positive effects of meditation can last for two or more hours after completion of an individual meditative experience.[5,6,10]

Chanting, like Vipassana meditation, also has been found to be an effective spiritual practice for enhancing emotional and spiritual well-being.[16-19] Buddhists believe by chanting daily they are able to solve everyday problems and have peace of mind.[17,20] Chanting is recognized as a form of musical verse or rhythmic vocalization of prayer that gives one confidence, joy, satisfaction and a sense of increased devotion. This devotion is called the Power of Devotion (*saddhabala*) that gives energy in one's life.[16-18] As a spiritual practice, chanting can be used to make one's mind contemplative, not wander and not engage in unwholesome thoughts.[16-18] In addition, chanting can be used as a traditional way of preparing one's mind for meditation.

There are three major traditions for chanting: Theravada, Mayhayana and Vajrayana.[16-19] The basis for most Theravada chants is the Pali Canon, while Mayhayana and Vajrayana chants draw from a wider range of sources. Since the chanting practiced by the subjects in this study was from the Theravada tradition, only chanting from that perspective will be addressed.

There are a variety of Theravada chants with one of the most popular being Dhamma (Salutation to the Buddha's Teachings).[16] Dhamma has a variety of meanings, including: phenomenon, nature, mental contents, source of things and truth. [17,18,20] In addition, Dhamma is used to refer to the teachings of the Buddha, not in the context of the words of one man, but rather as a reflection of natural law that was re-discovered by the Buddha and shared with the world. A person who lives life with an understanding of natural law is considered a "dhammic" or "righteous" person.

Like Vipassana meditation, chanting has been found to improve sleep quality,[22] health status, and mental strength among individuals with HIV/AIDS.[23] Furthermore, elderly Buddhists females, who have relied upon and practiced chanting, have been found to exhibit more effective coping behaviors, and be better able to cope with suffering and crises experienced with increased age and illness.[21]

Review of the literature did not reveal any intervention studies, with elderly Thais, based on Buddhist doctrine and the use of the Buddhists spiritual practices of Vipassana (insight) meditation and chanting. Moreover, little is known about the use of Vipassana (insight) meditation and chanting as interventions for enhancing well-being, coping,

and sleep quality of Thai elders. Therefore, this randomized control trial aimed to investigate the effectiveness of the Buddhist spiritual practices of Vipassana (insight) meditation and chanting on enhancing spiritual well-being, coping and sleep quality of Thai elders.

Conceptual Framework

This research was based on the Buddhist spiritual practices of Vipassana (insight) meditation and chanting. The purpose of these two spiritual practices, according to Buddhist doctrine, is to obtain spiritual well-being by achieving inner peace and wisdom.[16] Buddhists believe these can be obtained by focusing one's body/mind in the present, so as to allow the mind to focus or concentrate (*samadhi*) on the moment. In other words, the more one focuses on the moment and concentrates on attainment of inner peace, the more one is able to realize the true nature of self and recognize phenomena as they truly are. Thus, Buddhists believe wisdom, ultimately, is gained through self-realization.[16]

Mindfulness (*sati*) and concentration (*samadhi*) are essential components of Buddhist doctrine.[16] Buddhists view mindfulness as the awareness one has of his/her mind and body that allows him/her to experience a sense of wholeness. On the other hand, Buddhists see concentration as the ability one has to focus on a thought at a given moment. Buddhists believe that through meditation and chanting one is able to utilize his/her mindfulness and concentration to achieve mental steadfastness and inner peace. By so doing, one develops wisdom and gains a deeper understanding and realization of him/herself.[8,15,16]

Method

Design: A randomized control trial design, using two experimental groups (Vipassana meditation or chanting) and a control group (no meditation or chanting), was used in this study. Data were collected from June 2009 to February 2010.

Ethical Considerations: The study was approved by the primary investigator's (PI) academic institution, as well as the community and temple leaders of the two rural communities used as study sites. All potential subjects were informed about: the nature of the study; what study involvement would entail; confidentiality and anonymity issues; and, withdrawal from the study at any time without repercussions. All subjects consenting to take part in the study were required to sign a consent form.

Sample and setting: The sample consisted of 79 elderly Thai Buddhists from two rural communities in southern Thailand. Leaders of the two communities and the nurses in the primary care units (PCUs) in the area provided the PI with the names, addresses and telephone numbers of all individuals in the community who they thought met the inclusion criteria. Inclusion criteria consisted of elderly Thai Buddhists who: were 60-80 years of age; were alert and able to read and understand Thai; had no less than a primary school education; had adequate financial support; did not have diabetes mellitus or hypertension; lived with his/her extended family; was willing to participate; and, was willing to allow the PI to call or visit his/her home. Elders who met the inclusion criteria and consented to participate were randomly assigned to one of the two experimental groups or the control group.

The sample size was determined via use of the ANOVA power table, for three groups, with a significance level of 0.05 and power of 0.80.[24] Since no similar study had been conducted in Thailand, an effect size of 0.20 was chosen. Thus, a minimum of 14 subjects per group was determined to be needed. However, it appeared the estimated number of subjects was too small to demonstrate normal distribution of the variable scores and deal with possible subject attrition. Since there were 246 potential subjects available, the PI planned to have

at least 50 participants in each group. However, many of the potential subjects initially contacted informed the PI the time involvement in the study was too demanding. Thus, after 8 months of contacting potential subjects and having obtained 82 subjects who consented to take part in the study, the PI re-calculated the effect size (eta2) of the program. The calculated effect sizes for each variable, in the Vipassana meditation group and the chanting group, was found to range from 0.38 - 0.64 and 0.42 - 0.75, respectively. From the least effect size, with the least number of participants, the power for the study intervention was more than 0.90. Therefore, the researcher was comfortable with at least 23 subjects being in each group. The final composition of each group was: Group I (Vipassana meditation) = 33 subjects; Group II (chanting) = 24 subjects; and, Group III (neither meditation nor chanting - control group) = 25.

Prior to the start of the Vipassana meditation and chanting interventions, two subjects recruited for the Vipassana meditation group and one recruited for the chanting group dropped out, as a result of leaving town, leaving 31 subjects in the Vipassana meditation group, 23 in the chanting group and 25 in the control group. The demographic, family status and religious experience characteristics for each group are shown in **Tables 1, 2 and 3,** respectively. As can be noted, subjects in the three groups were fairly similar with the exception of gender (i.e. the control group had significantly more males) and prior involvement with Vipassana meditation (i.e. the chanting group had significantly more subjects).

Table 1 Demographic variables of the three study groups

Demographic Characteristics	Control (n = 25)		Vipassana (n = 31)		Chanting (n = 23)		Test value	*p*
	n	%	n	%	n	%		
Gender								
Male	13	52.0	7	22.6	5	21.7	6.921[a]	.031*
Female	12	48.0	24	77.4	18	78.3		
Age (years)								
60-69	15	60.0	14	45.2	13	56.5	1.165[F]	.318
70-79	10	40.0	16	51.6	10	43.5		
≥ 80	0	0.0	1	3.2	0	0.0		
Range	62-79		60-80		60-76			
Mean(SD)	67.72(5.58)		69.77 (6.46)		67.70 (5.33)		1.004[F]	.371
Educational level								
Primary school	25	100.00	31	100.00	23	100.00	.000[a]	1.000
Marital Status								
Single	1	4.0	0	0.0	1	4.4	3.083[a]	.214
Married	20	80.0	20	64.5	15	65.2		
Widowed	4	16.0	11	35.5	7	30.4		

Table 1 Demographic variables of the three study groups (cont.)

Demographic Characteristics	Control (n = 25)		Vipassana (n = 31)		Chanting (n = 23)		Test value	*p*
	n	%	n	%	n	%		
Current occupation								
Unemployed	8	32.0	13	41.9	10	43.5	.807[a]	.668
Agriculture	17	68.0	18	58.1	13	56.5		
Family income								
Sufficient	23	92.0	25	80.6	23	100.0	5.545[a]	.062
Insufficient	2	8.0	6	19.4	0	0.0		
Source of income								
Work	19	76.0	17	54.8	13	56.5	3.010[a]	.222
Family members (children/ grandchildren)	6	24.0	14	45.2	10	43.5		
Sedative-drugs used								
Never used	24	96.0	29	93.5	22	95.7	.205[a]	.903
Currently used	1	4.0	2	6.5	1	4.3		

Note: [a] = Kruskal-Wallis Test; [F] = ANOVA; * $p < .05$.

Table 2 Family status of the three study groups

Family Status Characteristics	Control (n = 25)		Vipassana (n = 31)		Chanting (n = 23)		Test value	*p*
	n	%	n	%	n	%		
Role in the family								
Head	17	68.0	17	54.8	17	73.9	2.206[a]	.323
Member	8	32.0	14	45.2	6	26.1		
Present living conditions								
Living with spouse and child/children	25	100.0	30	96.8	23	100.0	1.548[a]	.461
Living with spouse and grandchild/ grandchildren	0	0.0	1	3.2	0	0.0		
Activities for daily living								
Independent	25	100.00	31	100.00	23	100.00	.000[a]	1.000
Self value								
Respected persons	25	100.00	31	100.00	23	100.00	.000[a]	1.000

Note: [a] = Kruskal-Wallis Test

Table 3 Religious experiences of the three study groups

Religious Experiences	Control (n = 25)		Vipassana (n = 31)		Chanting (n = 23)		Test value	*p*
	n	%	n	%	n	%		
Merit making experiences								
Never	1	4.0	0	0.0	0	0.0	2.537[a]	.281
Alms-giving	24	96.0	28	90.3	9	39.1		
Giving food to monks	0	0.0	3	9.7	14	60.9		
Vipassana meditation								
Never	21	84.0	22	71.0	9	39.1	11.178[a]	.004**
Practicing	4	16.0	9	29.0	14	60.9		

Note: [a] = Kruskal-Wallis Test; ** p < .01

Interventions for the two experimental groups: Prior to the study, the PI received four days of Vipassana meditation, as well as chanting training and practice, from the meditation teachers at Wat Ram Poeng in Chiang Mai, Thailand. The PI then practiced, under the supervision of the respective temple abbots and nuns, Vipassana meditation at Wat Phratatsrijomthong voravihara in Chiang Mai, once a day for seven days, and at Wat Ram Poeng, twice a day for five days. In addition, the PI practiced the Vipassana meditation technique one to two hours daily for one month prior to commencement of data collection. During this time, the PI also instructed the research assistant (RA) how to recruit and interview subjects, gather data and perform Vipassana meditation and chanting. The RA then assisted the PI in teaching the subjects Vipassana meditation and chanting, and gathering data.

Vipassana meditation: In order to facilitate appropriate teaching of and involvement in meditation, the 31 subjects assigned to this experimental intervention were randomly assigned to one of two groups of 15 and 16 subjects each. At the respective rural community's temple, subjects in each of the two experimental groups were taught and guided in meditation, at different times, over eight months. The actual teaching and practice of Vipassana meditation was conducted by the PI, for 10 days, under the supervision of the respective temple's abbots or nuns.

During the first day of the intervention, the 31 subjects verbally received 40 to 45 minutes of basic information about Vipassana meditation, including the: meaning, purpose, methods and benefits of Vipassana meditation; locations for engaging in meditation; and, duration of engagement in meditation. In addition, each subject was provided a PI-developed manual that explained the meaning, purpose, usefulness and discourse of the "Four Foundations of Mindfulness," as well as an explanation of the technique for engaging in meditation. The manual, prior to being used, was reviewed and approved by five experts in Vipassana meditation. To assure the subjects understanding of the manual, the PI reviewed its contents with them and addressed their questions. Then, for one to two hours, under the supervision of the respective temple's abbots or nuns, the PI demonstrated how to perform Vipassana meditation and had the subjects practice the technique.

The technique for Vipassana meditation involves three steps: a) paying homage to the Triple Gem and the "Four Foundations of Mindfulness" by becoming prostrate three times; b) "walking meditation" by focusing on walking forward; being

aware of each step; keeping eyes half-closed and focusing on the floor six feet ahead; not bending head too low so as to avoid muscle tension, headache and dizziness; slowly turning back and forth to change position of body; and, repeating this process by walking back and forth along the same path for 20-30 minutes; and, c) "sitting meditation" by focusing, for 20- 30 minutes, on feeling the rise and fall of the abdomen when breathing; repositioning to minimize aches, pains and numbness in the extremities; sitting on floor with one leg to the side or sitting in a chair; and, switching between "walking and sitting meditation" one time for a full cycle of each type of meditation.

During the 2nd through 10th day, the PI, RA and subjects listened to the respective community temple's abbots and nuns preach about Dhamma. Following delivery of the message about Dhamma, the PI and subjects practiced, under the supervision of the same temple abbots and nuns, Vipassana meditation daily from 9am to 12 noon.

Once the 10 days of meditation intervention (i.e. first two weeks of the research protocol) were completed, the PI or RA visited the home of each subject, once a week, for six weeks (weeks 3 through 8). During each visit, the PI or RA helped the subjects problem solve regarding obstacles they encountered related to the techniques/steps of engaging in both "walking" and "sitting" meditation.

Chanting: In order to facilitate appropriate teaching of and involvement in chanting, subjects assigned to this experimental intervention were randomly divided and placed into two groups of 10 and 13. At the respective rural community's temple, the subjects in both groups were taught how to chant, as well as guided in chanting, at different times, over eight months. The actual teaching and practice of chanting was conducted by the PI, for 10 days, under the supervision of the respective temple's abbots or nuns.

During the first day of the intervention, the subjects were instructed, for one hour, about how to chant and the practice of chanting. The instruction included: the rhythm or cadence of chanting; how to go about memorizing the content to be chanted; and, use of a loud voice to express bodily, verbal and mental action, and to help with mindfulness and concentration. In addition, the subjects were given a manual on chanting that included a modification of the chanting book of Wat Ram Poeng[25] and the Pali-Thai-English Translation of sacred Buddhist chants.[26] Prior to the manual being use, it was reviewed and approved by five experts in chanting. To assure each subject's understanding of the manual, the PI reviewed its contents with them and addressed their questions. Then, under the supervision of the respective temple's abbots or nuns, the PI demonstrated how to chant and had the subjects practice the technique. The technique for chanting involved two steps: engaging in mindful prostration (done in the morning and evening) by joining hands together in anjali (อัญชลี) and reciting a passage in Pali; and, chanting with others, while keeping one's pitch, tempo and speed consistent so their voices blended together.

During the 2nd through 10th day, the PI, RA and subjects listened to the respective temple's abbots and nuns preach about Dhamma. Following delivery of the message about Dhamma, the PI and subjects, under the supervision of the same temple abbots and nuns, chanted daily from 8am to 12 noon and 3 to 5pm. The PI served as the chant leader during the chants.

After the 10 days (i.e. first two weeks of the research protocol) of the chanting intervention were completed, the PI or RA visited the home of each subject, once a week, for six weeks (weeks 3 through 8). During each visit, the PI or RA helped subjects problem solve regarding obstacles they had encountered related to the technique/steps of chanting.

Intervention for the control group: Subjects assigned to the control group engaged in neither the Vipassana meditation or chanting techniques/steps administered to subjects in the two experimental groups. The control group subjects only engaged in whatever Buddhist religious practices they normally performed.

Instruments: Based upon review of the literature, the PI developed four study instruments, the: Demographic, Family Status, and Religious Experiences Data Sheet (DFSREDS); Thai Elderly Spiritual Well-being Scale (TESWBS); Thai Elderly Coping Scale (TECS); and, Thai Elderly Sleep Quality Scale (TESQS). The Demographic, Family Status and Religious Experiences Data Sheet (DFSREDS) requested information regarding each subject's: gender; age; educational level; marital status; current occupation; sufficiency/insufficiency of family income; source of income; sedative drugs used; role in the family; present living conditions; activities of daily living; self-value; merit making; and, experience with Vipassana meditation. It took 10-15 minutes to complete the DFSREDS.

The 34-item Thai Elderly Spiritual Well-being Scale (TESWBS) was used to asses each subject's spiritual well-being. Examples of items from the TESWBS were: "I feel happiness when I do good deeds as an elderly person" and "I feel happiness in situations so that I don't want anything that does not belong to me." Possible responses for each item ranged from 1 = "strongly disagree" to 5 = "strongly agree." A total score was calculated by summing responses across all items. Total scores could range from 34 to 170 and were classified as low (34.00-79.33), moderate (79.34-124.67) or high (124.68-170.00). High scores suggested a better level of spiritual well-being. It took 20-30 minutes to complete the TESWBS.

The 30-itemThai Elderly Coping Scale (TECS) was used to assess problem-focused coping (13 items) and emotion-focused coping (17 items). Examples of items were: "I can solve problems very well so I serve as a consultant to my children" (problem-focused item) and "I worry about my deterioration due to the aging process" (emotion-focused item). Possible responses to items were 1 = "never" to 5 = "almost always." Prior to calculation of the subscale scores, the nine items stated in negative terms were reverse scored. Subscale scores were then computed by summing item responses across all relevant items, with a total score being calculated by summing the two subscale scores. Total scores could range from 30 to150. The scores were classified as low (30-90) or high (90.01-150). High scores suggested the presence of a strong level of coping. It took 30-40 minutes to complete the TECS.

Sleep quality was measured, by six multiple choice questions, on the Thai Elderly Sleep Quality Scale (TESQS). An example of one of the questions was: "How much difficulty did you have in falling asleep during the previous one month (sleep latency)?" Each question had four alternative responses: "none or very little" = 4; "some" = 3; = "a lot" = 2; and, "extreme difficulty" = 1. A total score was calculated by summing item responses across all 6 items. Total scores could range from 6 to 24. Higher scores suggested the presence of better sleep quality. It took 10-15 minutes to complete the TESQS.

Prior to use in the study, the TESWBS, TECS and TESQS were examined for item content validity (ICVI) and scale content validity (S-CVI) by a panel of five experts in Buddhist philosophy, Vipassana meditation, gerontology, and spirituality. The I-CVI, S-CVI/average and inter-rater agreement for the TESWBS were 0.60 to 1.00, 0.79 and 0.84, respectively. For the TECS, the I-CVI, SCVI/average and inter-rater agreement were 0.80 to 1.00, 0.91 and 0.83, respectively. For the TESQS,

the I-CVI, S-CVI/average and inter-rater agreement were 0.80 to 1.00, 0.97 and 0.93, respectively. The reliability of the TESWBS and the TESQS were pilot-tested on 15 Thai elders with characteristics similar to the study subjects, and the reliability of the TECS was pilot-tested on 17 Thai elders with characteristics similar to the study subjects. Cronbach's alpha coefficients for the pilot testing of the TESWBS, TECS and TESQS were found to be 0.94, 0.83 and 0.80, respectively, while for the actual study they, respectively, were found to be 0.94, 0.83; and 0.80.

Procedure: After they consented to participate and were randomly assigned to one of three groups (meditation, chanting or control), the subjects were verbally administered, in their respective homes, the four study instruments (baseline assessment) and given the consent form to sign. Each instrument was pre-coded so the PI knew to which group a subject had been assigned. Upon completion of the instruments, the subjects were told to which group they were assigned. Those assigned to one of the two experimental groups were told when and where to meet for the intervention, while those in the control group received no intervention and, thus, were not instructed on when and where to meet for an intervention.

Upon completion of the two experimental interventions, at one, two and four months, all of the subjects in the meditation, chanting and control groups were again verbally administered, in their respective homes, the TESWBS, TESQS and TECS. Again, all the instruments were pre-coded so the PI knew to which group a subject had been assigned.

Data analysis: Descriptive statistics, the Krushal-Wallis test and one- ANOVA were used for analyzing the demographic, family status and religious experience data. Descriptive statistics were used for calculating the instruments' scores. Two-way repeated measures ANOVA was used to compare within subject and between subjects, among the three groups, regarding spiritual well-being, coping and sleep quality. One-way repeated measures ANOVA was used to compare spiritual well-being, sleep quality and coping scores, across groups, at baseline and at one, two and four months after completion of the two interventions. The Bonferroni test was used for multiple pairwise comparisons of spiritual well-being, coping and sleep quality, in each group, at each point of measurement (baseline and one, two and four months after completion of the two interventions).

Results

Significant differences in spiritual well-being, coping and sleep quality were found among the three groups (see **Table 4**). It was noted the interaction time of measurement between groups was statistically significant. Therefore, the difference among scores at each point of measurement, in each group, needed to be confirmed. It was found there were no significant differences of sleep quality between the control, Vipassana meditation and chanting groups. However, there was a significant change in sleep quality scores over time. Comparison of coping scores was done to test the difference between groups and the change over time. The results showed that coping scores of the Vipassana meditation, chanting and control groups were significantly different and the change in scores, at each point of measurement, was significant. There was also a significant interaction between groups and time affecting the coping scores at each point of measurement.

As shown in **Table 5**, after receiving their respective experimental programs, the spiritual well-being scores of the Vipassana meditation and chanting groups increased over time, whereas those of the control group did not show a significant change. The analysis of the difference between scores, at each point of measurement in each group, showed the sleep quality scores in the Vipassana

meditation group significantly increased over time, while the scores of the chanting and control groups did not. Analysis of changes, over time, of the coping scores in each group showed the coping scores of the control, Vipassana meditation and chanting groups significantly increased (See **Table 6**).

Table 4 Differences, at each point of measurement, in spiritual well-being, coping and sleep quality among the three study groups

Variables	SS	df	MS	F^r	*p*
Spiritual well-being					
Within subject					
Time	13519.722	3	4506.754	32.533	.000***
Time x group	2066.796	6	344.466	2.487	.024*
Error	31583.653	228	138.525		
Between subject					
Group	37286.67	2	18643.335	44.398	.000***
Error	31913.438	76	419.914		
Coping					
Within subject					
Time	21864.267	2.620	8345.982	85.243	.000***
Time x group	1884.859	5.239	359.742	3.674	.003**
Error	19493.445	199.100	97.908		
Between subject					
Group	7097.127	2	3547.064	24.844	.000***
Error	10850.961	76	142.776		
Sleep quality					
Within subject					
Time	486.256	2.241	216.947	50.933	.000***
Time x group	104.065	4.483	23.215	5.450	.000***
Error	725.574	170.343	4.259		
Between subject					
Group	10.133	2	5.066	.575	.565
Error	669.165	76	8.805		

Note: ^{r} = Two-way repeated measure ANOVA

*$p < .05$; **$p < .01$; ***$p < .001$

Table 5 Mean differences, at each point of measurement, in spiritual well-being and sleep quality among the three study groups

Variables	$\bar{d}$ (SD)			F	*p*
	$\bar{d}_1$	$\bar{d}_2$	$\bar{d}_4$		
Spiritual well-being					
Control group	7.52 (9.35)	11.52 (18.76)	9.48 (17.63)	.607	.548
Vipassana group	11.41(14.13)	18.42 (17.66)	19.74 (16.77)	4.505	.015*
Chanting group	13.26 (17.09)	12.04 (17.11)	23.78 (17.80)	7.821	.001**
Sleep quality					
Control group	2.04 (6.20)	1.52 (1.93)	1.32 (2.56)	.245	.784
Vipassana group	3.38 (3.59)	3.41(3.51)	4.77 (3.42)	6.606	.006**
Chanting group	3.60 (2.90)	3.52(3.05)	3.95 (2.75)	.735	.485

Note: $\bar{d}$ (SD) = Mean (SD) of baseline minus mean (SD) of 1 month, 2 months, and 4 months
F = One-way repeated measure ANOVA; *p<.05; **p<.01
$\bar{d}_1$ = $\bar{d}$ at baseline and 1 month; $\bar{d}_2$ = $\bar{d}$ at baseline and 2 months
$\bar{d}_4$ = d at baseline and 4 months.

Table 6 Comparison of the coping scores between each point of measurement in the three study groups

Coping	Mean(SD)				Value	*p*
	Baseline	1st month	2nd month	4th month		
Control	90.48	104.28	109.96	108.52	40.532^r	.000***
Vipassana meditation	93.90	113.19	122.10	124.10	53.000^r	.000***
Chanting	95.30	117.00	119.83	119.83	65.665^r	.000***

Note: ^{r} = One-way repeated measures ANOVA; *** $p < .001$.

Examination of multiple pairwise comparisons (See **Table 7**), between each point of measurement, showed spiritual well-being scores increased from baseline and one month to baseline and two months, and from baseline and one month to baseline and four months in the Vipassana meditation group. For the chanting group, spiritual well-being scores increased from baseline and one month to baseline

and four months and from baseline and two months to baseline and four months. The sleep quality scores for the Vipassana meditation group were found to increase from baseline and one month to baseline and four months, and from baseline and two month to baseline and four months. The sleep quality scores for the chanting group was found to increase from baseline and one month to baseline and four months.

As shown in **Table 8**, the coping scores for the control group showed a significant change from baseline to one, two and four months. For the Vipassana meditation group, the coping scores had a significant increase from baseline to one, two and four months, and from one month to two and four months. Coping scores for the chanting group had a significant increase from baseline to one, two and four months, and from one month to four months.

Table 7 Multiple pairwise comparisons of spiritual well-being and sleep quality between each point of measurement in the three study groups

Variables	$\bar{d}$ (SD)			*p*		
	$\bar{d}_1$ 1	$\bar{d}_2$ 2	$\bar{d}_4$ 3	1 vs 2	1 vs 3	2 vs 3
Spiritual wellbeing						
Control group	7.52 (9.35)	11.52(18.76)	9.48 (17.63)	.880	1.000	1.000
Vipassana group	11.41(14.13)	18.42(17.66)	19.74 (16.77)	.039*[b]	.020*[b]	1.000
Chanting group	13.26(17.09)	12.04(17.11)	23.78(17.80)	1.000	.046*[b]	.001**[b]
Sleep quality						
Control group	2.04 (6.20)	1.52 (1.93)	1.32(2.56)	1.000	1.000	1.000
Vipassana group	3.38 (3.59)	3.41(3.51)	4.77(3.42)	.788	.000**[b]	.059*[b]
Chanting group	3.60 (2.90)	3.52(3.05)	3.95(2.75)	.675	.009**[b]	.066

Note: $\bar{d}$ (SD) = Mean (SD) of baseline minus mean (SD) of 1 month, 2 months, and 4 months

[b] = Bonferroni test; * = p<.05; **p<.01

$\bar{d}_1$ = $\bar{d}$ at baseline and 1 month, $\bar{d}_2$ = $\bar{d}$ at baseline and 2 months,

$\bar{d}_4$ = $\bar{d}$ at baseline and 4 months

Table 8 Multiple pairwise comparisons of coping among the three study groups

Variable	Means				*p*					
	Baseline 1	1 mon. 2	2 mon. 3	4 mon. 4	1 vs 2	1 vs 3	1 vs 4	2 vs 3	2 vs 4	3 vs 4
Control	90.48	104.28	109.96	108.52	.000[b]**	.000[b]***	.000[b]***	.144[b]	.307[b]	1.000[b]
Vipassana	93.90	113.19	122.10	124.10	.000[b]**	.000[b]***	.000[b]***	.048[b]*	.000[b]***	1.000[b]
Chanting	95.30	117.00	119.83	119.83	.000[b]**	.000[b]***	.000[b]***	.566[b]	.002[b]**	.331[b]

Note: mon. = month; [b] = Bonferroni test; * $p < .05$; ** $p < .01$; *** $p < .001$.

Discussion

The results of the study revealed that Buddhist doctrine practice-based programs can have an impact on the spiritual well-being, coping and sleep quality of elders. Compared to the control group, the use of Vipassana meditation and chanting were found to improve subjects' spiritual well-being over time. For subjects in the Vipassana meditation group, the fact spiritual well-being was improved is congruent with the work of Tongprateep[8] and Rattanapun[2] who, respectively, found meditation can assist rural Thai elders in developing a "peaceful" or "cheerful" mind. No doubt, because the meditation focused on mind training that brought about the mental qualities of stability, purity and inner peace, this led to a sense of spiritual well-being. The fact spiritual well-being improved, over time, for subjects in the chanting group, was consistent with the findings of Kunsongkiet and colleagues[20] who proposed that chanting provides Thai people and their families with a "peaceful mind" and a sense of happiness in their lives. Because subjects involved in chanting were able to make their minds contemplative, not wander and engage in wholesome thoughts, they were able to foster a sense of peacefulness that, ultimately, led to achieving spiritual well-being. The fact both the Vipassana meditation group and the chanting group had improved spiritual well-being, over time, was consistent with Wiriyasombat[28] findings that practicing meditation and chanting can bring Thai elders a sense of calmness, comfort, happiness and peace.

Although the findings suggested the control group demonstrated significant increases in coping, over time, both the Vipassana meditation group and the chanting group had greater increases. These findings are consistent with prior research. For example, Chobchai[29] found chanting can assist elderly cancer patients deal more effectively with their suffering, while Hampton and Weinert[30] found praying helped rural women cope better with their chronic illnesses. In addition, spiritual practices were found by Ibrahim[31] to assist with the achievement of a peaceful mind, an important indicator in showing the effectiveness of one's coping behavior. It was also noted byTongprateep,[32] in a qualitative study, that spiritual beliefs and religious practices can foster coping behavior during times of trouble and disappointment. Since both meditation and chanting can assist in self-awareness, development of a peaceful mind, and reducing stress and anxiety, their use, most likely, assisted the elderly subjects in being able to cope better with events in their daily lives.

Regarding sleep quality, the findings revealed both the Vipassana meditation and chanting group, compared to the control group, had an increase in sleep quality at four months. The positive effects of

meditation and chanting on sleep quality, in this study, may have been due to the effectiveness of fostering concentration and calmness that, ultimately, can facilitate a state of relaxation conducive to quality sleep. Prior research has shown a state of concentration can lead to a decrease in sympathetic activity and an increase in parasympathetic activity, resulting in a balanced state of being.[33] A balanced state of being, ultimately, can foster physical health and mental health which, in turn, can facilitate sleep.[34]

In summary, the study's findings suggest the use of Vipassana meditation and chanting can serve as potential enhancements to spiritual well-being, coping and sleep quality in Thai elders. Thus, nurses working with Thai elders may want to consider incorporating these practices into the delivery of some of their health care services.

Limitations and Future Research

As with all studies, this study has limitations. The study was conducted in only two rural communities, in southern Thailand, with healthy elderly and used only two types of spiritual practice. Thus, generalization of the findings to other populations is limited. To broaden the generalizability of the results, further studies should be conducted in other settings, using a wider variety of spiritual practices, and engaging elderly subjects who have chronic illnesses, such as diabetes mellitus, hypertension or heart disease.

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ประสิทธิผลของโปรแกรมการปฏิบัติตามหลักพุทธธรรมในการส่งเสริมความผาสุกทางจิตวิญญาณ การเผชิญปัญหาและคุณภาพการนอนหลับของผู้สูงอายุไทย

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บทคัดย่อ: ความผาสุกทางจิตวิญญาณ เป็นองค์ประกอบที่สำคัญยิ่งของมนุษย์ เนื่องจากส่งผลต่อความผาสุกทางด้านร่างกายและจิตใจของบุคคล การศึกษานี้ใช้วิธีการวิจัยแบบทดลองเพื่อศึกษาประสิทธิผลของโปรแกรมการปฏิบัติตามหลักพุทธธรรม ในการส่งเสริมความผาสุกทางจิตวิญญาณ การเผชิญปัญหาและคุณภาพการนอนหลับของผู้สูงอายุไทย กลุ่มตัวอย่างเป็นผู้สูงอายุในชุมชน 2 แห่งของอำเภอหาดใหญ่ จังหวัดสงขลา ที่นับถือศาสนาพุทธ อายุตั้งแต่ 60 ปีขึ้นไป ที่มีคุณสมบัติตามเกณฑ์ที่กำหนด จำนวน 79 ราย กลุ่มตัวอย่างถูกสุ่มเข้ากลุ่ม 3 กลุ่ม กลุ่มที่ 1 ปฏิบัติสมาธิวิปัสสนากรรมฐาน 31 ราย กลุ่มที่ 2 ปฏิบัติสวดมนต์ 23 ราย และกลุ่มที่ 3 เป็นกลุ่มที่ไม่ได้รับโปรแกรมใดๆ 25 ราย รวบรวมข้อมูลก่อนและหลังการได้รับโปรแกรม 1 เดือน 2 เดือน และ 4 เดือน โดยใช้แบบวัดความผาสุกทางจิตวิญญาณของผู้สูงอายุไทย แบบวัดการเผชิญปัญหาของผู้สูงอายุไทย และแบบวัดคุณภาพการนอนหลับของผู้สูงอายุไทย ดัดแปลงโดยผู้วิจัยซึ่งได้ผ่านการทดสอบคุณภาพแล้ว วิเคราะห์ข้อมูลโดยใช้สถิติบรรยายและการวิเคราะห์ความแปรปรวนแบบวัดซ้ำ

ผลการวิจัยพบว่า ในกลุ่มที่ปฏิบัติสมาธิวิปัสสนากรรมฐานมีความผาสุกทางจิตวิญญาณดีกว่าก่อนเข้าร่วมโปรแกรมในระยะ 1 เดือน 2 เดือน และ 4 เดือน ในขณะที่กลุ่มปฏิบัติสวดมนต์ มีความผาสุกทางจิตวิญญาณหลังเข้าร่วมโปรแกรมดีกว่าก่อนเข้าร่วมโปรแกรมในระยะ 2 เดือน และ 4 เดือน และดีกว่ากลุ่มควบคุมในเดือนที่ 4 อย่างมีนัยสำคัญทางสถิติ นอกจากนี้การเผชิญปัญหาของผู้สูงอายุไทยกลุ่มปฏิบัติสมาธิวิปัสสนากรรมฐานและกลุ่มปฏิบัติสวดมนต์ ภายหลังเข้าร่วมโปรแกรมทุกช่วงเวลาดีกว่าก่อนเข้าร่วมโปรแกรม และดีกว่ากลุ่มควบคุมอย่างมีนัยสำคัญทางสถิติ ส่วนคุณภาพการนอนหลับทั้งในกลุ่มปฏิบัติวิปัสสนากรรมฐานและกลุ่มปฏิบัติสวดมนต์ดีกว่ากลุ่มควบคุมเฉพาะภายหลังเข้าร่วมโปรแกรมในเดือนที่ 4 เท่านั้น

ผลจากการศึกษาครั้งนี้ เป็นข้อมูลพื้นฐานสำหรับพยาบาลในการนำโปรแกรมการปฏิบัติวิปัสสนากรรมฐานและการปฏิบัติสวดมนต์ไปปรับใช้ เพื่อส่งเสริมความผาสุกทางจิตวิญญาณ การเผชิญปัญหา และคุณภาพการนอนหลับในผู้สูงอายุไทย ข้อเสนอแนะสำหรับการวิจัยครั้งต่อไป ได้แก่ การศึกษาในโรคเรื้อรังกลุ่มต่างๆ และในกลุ่มตัวอย่างที่มีขนาดใหญ่ เพื่อให้ผลการวิจัยสามารถอ้างถึงประชากรผู้สูงอายุไทยได้

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