Self-Management Among Adults with Chronic Low Back Pain: A Causal Model

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Abstract: Chronic low back pain is a common musculoskeletal problem and requires self-management among adults to carry out an active and emotionally satisfying life. To support self-management, it is necessary to understand how various factors work to influence this. The objective of this study was to develop a causal model of self-management among adults with chronic low back pain. A total of 174 Thai adults with chronic low back pain aged between 30 - 60 years were randomly selected by a multi-stage sampling method from four hospitals in the northern region of Thailand. Data were collected via the following instruments: The Demographic Data Form, Self-Management Scale, Modified Self-Efficacy for Chronic Low Back Pain Management Scale, Low Back Pain Knowledge Questionnaire, Modified Barthel's Activity of Daily Living Index, Chula Activity of Daily Living Index, Social Support Questionnaire, and Belief in Treatment Effectiveness Scale. Data were analyzed by descriptive statistics, Pearson's product moment correlation, and path analysis.

The results revealed that overall self-management was at a moderate level. A causal model of self-management fitted with data, and was able to explain 33.00% of the variance in self-management by four factors. These factors, self-efficacy, social support, low back pain knowledge, and belief in treatment effectiveness directly affected self-management. Social support both directly and indirectly affected self-management through self-efficacy and belief in treatment effectiveness. These results indicate that nurses can use the four factors to conduct appropriate interventions for promoting self-management among adults with chronic low back pain.

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Introduction

Chronic low back pain (chronic LBP) is pain that persists for more than 3 months.[1-2] This condition is a common cause of physical disability that adversely affects a person's daily activities and may lead to permanent disability.[3] Chronic LBP can also contribute to altered emotional states such as anxiety, depression,[4-5] and fear of movement.[6] Furthermore, the economic burden of chronic LBP is

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heavy due to the high cost of medications, admissions, surgical treatment, transportation, additional assistance from caregivers,[7] and absence from work.[8] The majority of treatments used for short-term pain relief, have several complications such as recurring back/leg pain and weakness,[1-2,4,9-11] as well as side effects of pain killers such as gastrointestinal bleeding/perforation, hypertension, renal failure, and myocardial infarction.[1-2,9-10] As a result, adults with chronic LBP require self-management to reduce these impacts and prevent complications of treatments in order to maintain a meaningful life. Thus, enhancing self-management for these persons is crucial.

First of all, the contributing factors affecting self-management need to be identified. Previous studies reported that certain factors consistently and strongly predicted/affected self-management among people with type 2 diabetes and chronic kidney disease. These factors included self-efficacy,[12-17] knowledge of the chronic condition,[13-16] social support,[14-16] belief in treatment effectiveness,[12,15] and physical function.[16] However, these relationships have not been investigated in adults with chronic LBP. Other factors such as age, income, education, duration of disease, and overall health were inconsistent in their association with self-management in chronic LBP[18] and other chronic conditions.[12-14,19] In order to promote self-management among adults with chronic LBP, it is critical to understand how the various factors work together. Therefore, the purpose of this study was to examine a causal model displaying the relationships between factors and self-management in adults with chronic LBP. This information will help nurses to develop appropriate interventions to enhance the competence of self-management in adults with chronic LBP.

Conceptual Framework and Literature Review

The conceptual framework was derived from the self-management concept of Lorig[20] and a literature review. Self-management is defined as learning and practicing the skills necessary to cope with a chronic condition in order to have an emotionally satisfactory life.[20]

The objective of self-management is to assist persons in taking responsibility for the day-to-day care of their chronic condition, and not to become isolated from medical care, in order to maintain wellness in their daily lives.[20] Self-management knowledge and skills as the work necessitated by three tasks.[20-21] Firstly, medical management involves medical care or treatment.[20-21] It consists of taking medication, using non-pharmacologic treatment, and visiting physicians.[1-2,9-11,20-24] Secondly, role management includes maintaining, changing and generating new meaningful behaviors or life roles[11,22] such as social participation, working, doing housework/hobbies, and lifestyle modification.[8,10,24] Finally, emotional management requires one to deal with the emotional consequences from a chronic condition.[20-21]

A comprehensive literature review revealed that several factors are related to self-management in chronic LBP[18] and other chronic conditions.[12-19] These factors included self-efficacy, belief in treatment effectiveness, physical function, LBP knowledge, and social support.

Self-efficacy refers to the self-judgment of one's ability to perform self-management tasks required to produce a given accomplishment.[25] Self-efficacy is associated with changes in health behavior[25] and is a key factor for accomplishing

self-management.[21] Persons who have self-efficacy will have the "confidence to carry out a behavior necessary to reach a desired goal" of self-management.[21(p4)] Previous studies reported that self-efficacy predicted self-management[13-14] and directly positively affected self-management in other chronic conditions.[12,15-17]

Belief in treatment effectiveness is defined as the person's thoughts about the efficacy for treating chronic LBP to control pain and prevent long-term disability.[5,12] People's beliefs about treatment effectiveness influence compliance with treatment and self-management performance.[5,12,15] Prior studies of other chronic conditions revealed that belief in treatment effectiveness positively directly affected self-management.[12,15]

Physical function is defined as an individual's ability to perform tasks of daily living,[16,26] including "basic and instrumental activities of daily living".[27(p97)] Physical function is important for people with a chronic condition to manage their symptoms because increased physical function leads to the ability to perform self-management. The empirical evidence of a chronic condition has reported that physical function positively directly affects self-management.[16]

LBP knowledge refers to people's understanding of the lower back area, including the cause(s), symptoms and stages of LBP, assessment for diagnosis, and treatments.[28] Sufficient and appropriate knowledge is necessary for appropriate decision-making to manage the condition changes on a day-to-day basis.[21] Persons who have knowledge are more likely to execute self-management activities that facilitate acheivement.[15] Knowledge of a chronic condition directly[15-16] and indirectly affect self-management through self-efficacy and belief in treatment effectiveness.[12,16] Since knowledge can increase self-efficacy, particularly interpreting physical symptoms, which leads to multiple ways for managing the symptoms and have reasons to try new self-management behaviors.[21,25] Moreover, knowledge enhances the correct interpretations of treatment that produce accurate belief in treatment effectiveness; this leads to appropriate self-management performance.[12,15]

Social support can help persons with chronic conditions to increase confidence to change behavior, and therefore lead to perform self-management.[21] The social support concept is derived from House's theory, and is defined as individually perceived assistance in four main categories: emotional, appraisal, informational, and instrumental support.[29] Adults with chronic LBP need social support for managing their problems from the condition in order to maintain normal social activities and the ability to do work, housework, or hobbies.[5,8,25] Previous studies revealed that social support positively directly[12,15-16] and indirectly affected self-management through self-efficacy[12,15-17] and belief in treatment effectiveness.[12,15] These associations are likely due to the fact that social support is a source of self-efficacy and a powerful means of increasing self-efficacy by encouraging patients to learn and practice tasks in order to achieve self-management.[21] Furthermore, social support enhances belief in treatment effectiveness, in that support from social networks may encourage the acceptance of patients' interpretations of their disease and treatment.[12]

Based on the self-management concept and the literature review, a causal model of self-management was constructed. It was hypothesized that self-efficacy, belief in treatment effectiveness, physical function, LBP knowledge, and social support directly affect self-management. Additionally, LBP knowledge and social support also indirectly affect self-management through self-efficacy and belief in treatment effectiveness. (Figure 1).

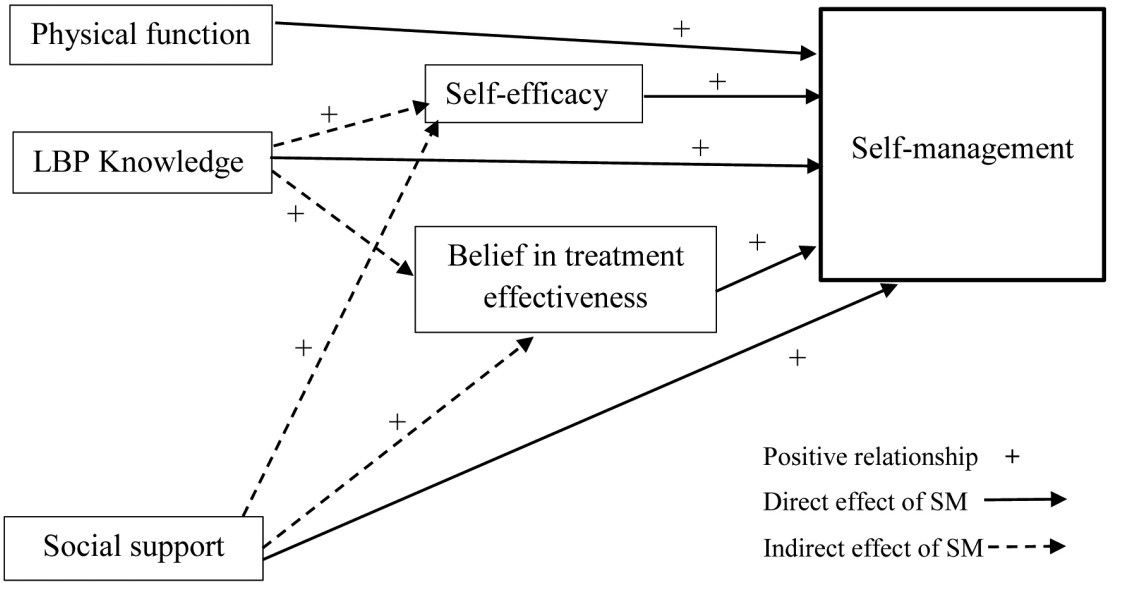

Figure 1 The conceptual framework of the hypothesized model of self-management among adults with chronic LBP

Method

Design: A cross-sectional, correlational design was used to test the hypothesized model of self-management among adults with chronic LBP.

Sample: The inclusion criteria for selecting participants included the following: 1) Thai adults with chronic LBP whose ages ranged from 30 to 60 years and had pain in the lower back area from the first lumbar vertebra (L1) to the first sacrum vertebra (S1), with the pain persisting for more than 3 months, with a diagnosis as the International Statistical Classification of Disease and Related Health Problems 10th revision (ICD-10), such as G54 nerve root and plexus disorders, G54.1 lumbosacral plexus disorders, G54.4 lumbosacral root disorders, not elsewhere classified, M47.8 other spondylosis: lumbosacral spondylosis, without myelopathy or radiculopathy, M48.0 spinal stenosis: caudal stenosis, M54 dorsalgia, M54.3 sciatica, M54.5 low back pain, and others;[30] and 2) Thai-language literacy. Participants were excluded if they met the following criteria: 1) having been diagnosed with psychiatric disorders, 2) engaging in substance abuse, or 3) a history of receiving surgical treatment of the lower back spine.

The sample size was calculated using a power analysis for the path analysis, which was based on an acceptable power level of .90, effect size of .10, and alpha level of .05.[31] The estimated sample size of this calculation was 171. Given a 10% allowance in sampling for attrition and missing data,[32] this study required a sample size of 188 participants. The multi-stage sampling method was used to randomly select the sample;[33] as shown in Figure 2. Participants were selected by using simple random sampling with replacement. Regarding the results in recruitment, 14 participants (8.19%) had missing data. Of these 14 participants, 6 participants were not responsive to answering several questions and 8 participants were unable to commit to the time needed to complete the questionnaire entirely.

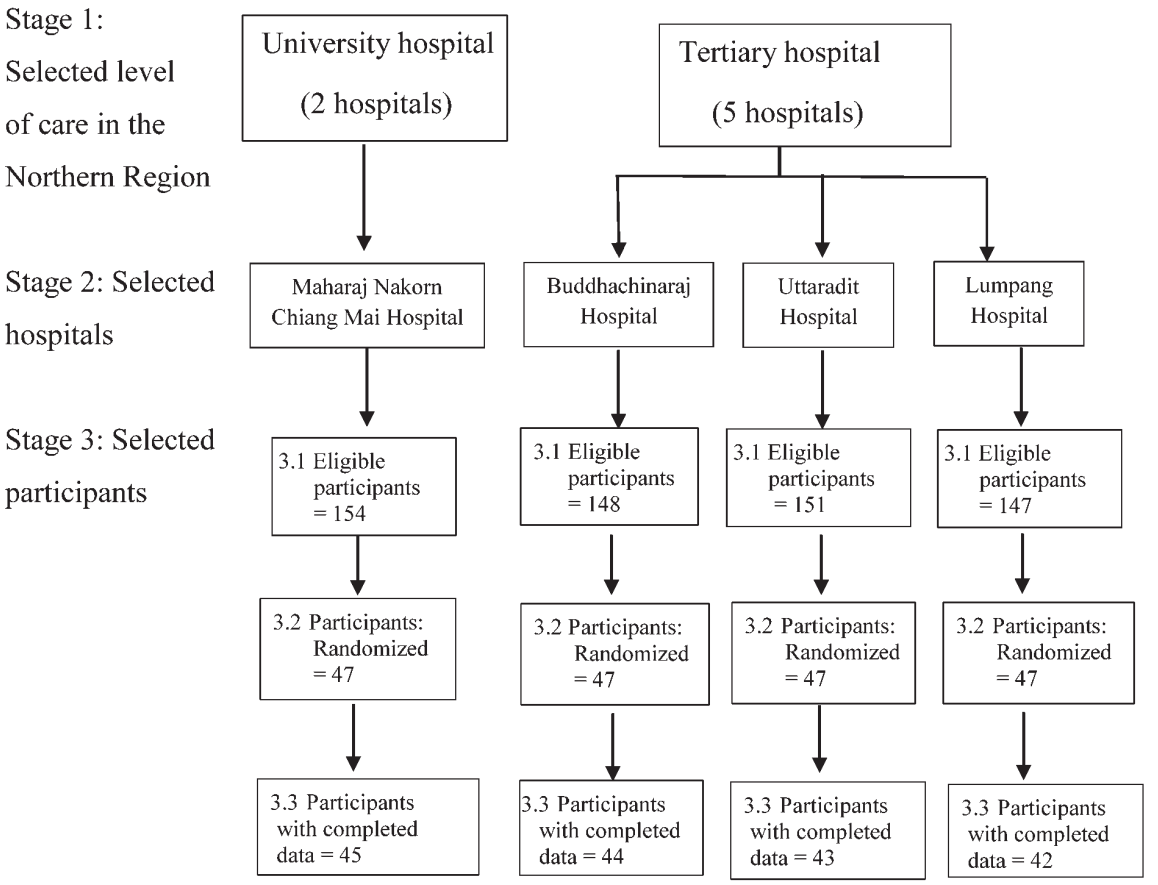

Figure 2 Multi-stage random sampling method for conducting research

Ethical Considerations: The research proposal was approved by the Research Ethics Committee of the Faculty of Nursing, Chiang Mai University, and the four study hospitals. All eligible participants were informed about the objective, methods, time required to complete the questions, code number assigned to ensure anonymity and confidentiality, risk (or minimal risk) from this study, and freedom from exploitation. Participants were free to decide about study participation by themselves, and free to refuse or withdraw from the study at any time without repercussion. Participants who were willing to participate were asked to sign a consent form before data collection.

Instruments: Data were collected by using eight instruments. All instruments except the demographic data form were pilot-tested for reliability with 20 adults with chronic LBP.

A Demographic Data Form was used for collecting the demographic data of the sample; it included two parts. The first part collects data on age, gender, marital status, religion, education level, occupation, income, perceived income adequacy, duration of chronic LBP, pain pattern, smoking history, and medical payment. The second part collects clinical data: cause of chronic LBP, body weight/Body Mass Index (BMI), height, spine surgery history (cervical

or thoracic vertebra regions), pain intensity score, and medications for treating chronic LBP.

The Self-Management Scale (SM Scale) ***and The Belief in Treatment Effectiveness Scale*** (BTES) were developed by the primary investigator (PI). Instrument development comprised eight steps: 1) determining a clear idea for measurement, 2) generating an item pool, 3) determining the format for measurement, 4) reviewing the initial item pool by six experts, 5) considering the inclusion of validation items, 6) administering items to a development sample, 7) evaluating the items, and 8) optimizing the scale length.[34(p73-114)]

The SM Scale was developed to measure the learning and practicing of the skills necessary to cope with a chronic condition in order to have an emotionally satisfactory life, which involves medical, role and emotional management in adults with chronic LBP. The SM Scale consists of 16 items. An item example is: "I find out about chronic LBP information from healthcare services, or other resources in order to utilize for managing my chronic LBP". Each item has a 6-point Likert scale ranging from 1 = "never" to 6 = "always". The total score ranges from 16 to 96 and is classified into one of three levels: low (16-43), moderate (44-70), and high (71-96). Content validity revealed that the Item-level Content Validity Index (I-CVI) ranged from .83 to 1.00 and the Scale-level Content Validity Index average proportion (S-CVI/Ave) was at .99. Construct validity was investigated by the contrasted-groups approach; it was revealed that the scale mean scores between the two groups of the participants were significantly different (t-test = 7.37, df = 126, $p < .01$).

The BTES was developed to assess a person's thoughts about the efficacy for treating chronic LBP to control pain and prevent long-term disability in adults with chronic LBP. The BTES comprises 12 items. Item examples are: "Taking acetaminophen is effective for relieving my back pain and leg pain" and "I believe post-operative surgical treatment did not prevent disability from chronic LBP". Each item has a 5-point Likert scale ranging from 1 = "not at all effective" to 5 = "most effective". A possible total score ranges from 12 to 60 and is classified into one of three levels: low (12 - 27), moderate (28 - 43), and high (44 - 60). Content validity showed that both ICVI and S-CVI/Ave were 1.00. Construct validity was examined by the contrasted-groups approach, and the mean rank scores between the two groups of the participants were significantly different (mean rank: adults with chronic LBP group = 80.74, to adults with acute LBP = 48.26, $p < .01$).

The Low Back Pain Knowledge Questionnaire (LKQ), developed by Maciel et al., was used to assess specific knowledge about LBP for persons at the chronic stage.[28] After getting permission for cross-cultural translation, the LKQ was translated into Thai by following the guidelines of cross-cultural adaptation.[36] The process included "1) translation, 2) back translation, 3) committee review, 4) pre-testing, and 5) weight of scores".[36(p1422)] The LKQ consists of 16 multiple-choice questions. An question example is: "What is low back pain? Mark ONE correct alternative: a) pain located between the lowest ribs and the pelvis, b) pain between the lowest ribs and the pelvis that radiates down the leg to the foot, c) pain in any region of the back, from the neck to the hip, d) pain in the abdomen, lower part of the pelvis or kidneys, and e) I don't know". The score of each item 1 - 8 is one, and the score of each item 9 - 16 is two. The overall maximum score possible is 24, and is classified into one of four levels: poor (0 - 5), low (6 - 11), moderate (12 - 17), and high (18 - 24). The cross-cultural validity of the weighting of items demonstrated that the overall scores ranged from 53 to 62 with a mean of 58.67 (SD = 4.93), indicating that the cross-cultural equivalence of the source and final versions of the LKQ was at a very high level.

The Modified Self-Efficacy for Chronic Low Back Pain Management Scale (MSE-CMS) was translated and modified from the Self-Efficacy for Managing Chronic Disease 6-Item Scale, after getting permission from Stanford University.[37] The MSE-CMS measures the self-judgment of one's ability to perform self-management tasks required to produce given achievements in adults with chronic LBP. This scale consists of 6 items and has a 10-point Likert scale. An item example is: "How confident do you feel that you can ask and communicate about your chronic low back pain problems with your physician or health care providers?". Each item ranges from 1 = "not confident" to 10 = "totally confident". The total score ranges from 6 to 60, and is classified into three levels: low (6-23), moderate (24-41), and high (42-60). Regarding content validity, this scale was reviewed by six experts, the same group that reviewed the SM scale and BTES. The I-CVI was at .83 - 1.00 and S-CVI/Ave was at 1.00. Construct validity was analyzed by the contrasted-groups approach, which was conducted in the same sample group as the SM scale and BTES.[35] The scale mean scores between the two groups of the participants were significantly different (t-test: $t = 8.77$, $df = 126$, $p < .01$).

The instrument for assessing physical function included two existing instruments, which were used with permission from the developers. Firstly, the ***Modified Barthel Activity of Daily Living Index*** (MBAI) was modified by Jitapunkul et al.,[27] and used for measuring ADLs of physical function. The MBAI consists of ten items divided into three parts: 1) bathing and grooming, with a 0-1 scale; 2) feeding, dressing, toilet use, urine and bowel continence, and climbing stairs, a 0-2 scale; and 3) transferring and mobility, a 0 - 3 scale. An example of an item is as follows: "Feeding when food is cooked and served by others, but not cut up: 0 = Unable to feed or received NG tube feeding, 1 = Needs help but can do something alone, such as help cutting, using a spoon to prepare food, etc., 2 = Independent. The total score ranges from 0 to 20. The score is classified into one of four levels: very low (total dependence) (0 - 4); low (severe dependence) (5 - 8); moderate (moderately severe dependence) (9 - 11); and high scores (mildly severe dependence; considered for discharging to home) (≥ 12).

Secondly, the ***Chula Activity of Daily Living Index*** (Chula ADLs), developed by Jitapunkul et al.,[27] was used to assess instrumental activities of daily living (IADLs) of physical function. The Chula ADLs consisted of five items, which were divided into three parts: 1) walking outdoors, with a 0-3 scale; 2) cooking and using public transport, a 0 - 2 scale; and 3) doing heavy housework and money exchange, a 0 - 1 scale. An item example is as follows: "Walking out doors: 0 = Unable to walk, 1 = Wheelchair independent, including corners, walks with help of two persons, etc., 2 = Walks with help of one person, and 3 = Independent (including may use any aid [e.g. walker, stick])". The total score ranges from 0 to 9. The score is classified into one of four levels: very low (total dependence) (0 - 2), low (severe dependence) (3 - 4), moderate (moderately severe dependence) (5 - 6), and high (mildly severe dependence; considered for discharging to home) (≥ 7).

The Social Support Questionnaire (SSQ), developed by Lotrakul,[38] with permission was used for measuring social support. The SSQ included four subscales: emotional, appraisal, informational, and instrumental supports. This questionnaire consisted of 20 items. An item example is: "You receive love and care from close persons when you have illness". Each item has a 4-point scale ranging from 1 = "strongly disagree" to 4 = "strongly agree". The total score ranges from 20 to 80. The score is classified into one of three levels: low (20 - 39), moderate (40 - 59), and high (60 - 80).

Regarding reliability, Cronbach's coefficient alpha was used for estimating internal consistency reliability of all of the instruments except the Demographic Data Form, as presented in Table 1.

Table 1 The Cronbach's coefficient alpha of reliability of instruments

Instruments	Internal Consistency Reliability	
	Pilot test	Actual study
The SM Scale	.85	.85
The BTES	.87	.77
The LKQ	.72	.70
The MSE-CMS	.91	.87
The MBAI	.85	.81
The Chula ADLs	.85	.70
The SSQ	.87	.93

Data collection: The PI reviewed the medical records of all adults with chronic LBP from the daily schedule in each hospital, and selected potential participants who met the inclusion criteria for establishing a sampling frame of each hospital. Eligible participants were randomly chosen from the name list of adults with chronic LBP in each hospital. The identified participants were approached and invited to participate in the study by the PI or the trained researcher assistants. After the study was explained and eligible participants were given a signed consent form, they completed the questionnaires taking approximately 1 hour and 20 minutes. The participants could stop when they felt tired during this time or take a short break. Next, the PI or the trained researcher assistants retrieved the personal data from the patients' medical records and filled in relevant parts of the clinical demographic form. Finally, the completed questionnaires were placed in numerical order for the purpose of identification.

Data analysis: The demographic data and the scores of all variables were analyzed using descriptive statistics. The relationships between the independent and dependent variables were examined by Pearson's correlation coefficient, and most assumptions were met. Physical function was a variable which had non-normal distribution and non-linearity. Hence, a dichotomous variable was used in physical function (both ADLs and IADLs).[39] The hypothesized causal model was analyzed by path analysis, and assumptions were met.

Results

There were 174 participants who provided completed data and this was sufficient for analysis. Most participants were female (n = 117, 67.24%) with a mean age of 48.78 years (SD = 8.56), were married (n = 127, 72.99%), were Buddhist (n = 167, 95.98%), were non-smokers (n = 148, 85.06%), had normal weight (n = 58, 33.33%), and had individual monthly incomes with greater than or equal to Thailand's poverty line (77.53 USD) (n = 135, 77.59%). Nearly half of the participants' education level was primary school (n = 85, 48.85%). The majority of the participants' occupations were classified as employees (n = 71, 40.80%), followed by agriculturalists (n = 40, 22.99%).

As for clinical demographic data, the majority of the participants had nerve root pain/radicular pain subtype (n = 92, 52.87%) as well as leg pain (n = 125, 71.84%) at a moderate pain level (n = 86, 49.43%). Regarding chronic LBP duration, 74.71% of the participants had a duration that ranged from 3 months to 5 years, and 69.54% of the participants had a duration of more than 1 year, with a mean of 4.35 years (SD = 4.70), and a mode of 3 years. All

participants had been prescribed medications by their orthopedic physician. Most of the participants were prescribed nonsteroidal anti-inflammatory drugs (NSAIDs) (n = 103, 17.98%).

Regarding the descriptive variables, the results revealed that the self-management score was at a moderate level. The five independent variables, the scores of self-efficacy and physical function (both ADLs and IADLs) were at high levels. Social support, belief in treatment effectiveness, and LBP knowledge scores were at moderate levels. (Table 2).

Table 2 Descriptive Values of the Study Variables (n = 174)

Variables	Possible score	Actual score	$\bar{X}$	SD	n(%)	Level
Self-management	16-96	25-92	59.62	13.07	120 (68.97)	Moderate
Self-efficacy	6-60	12-60	42.09	10.77	94 (54.02)	High
LBP knowledge	0-24	2-18	9.16	3.38	98 (56.32)	Moderate
Social support	20-80	23-80	58.74	10.88	86 (49.43)	Moderate
Belief in treatment effectiveness	12-60	18-58	33.89	6.26	139 (79.89)	Moderate
Physical function						
ADLs	0-20	7-20	19.23	1.84	171(98.28)	High
IADLs	0-9	1-9	8.55	1.10	133(76.44)	High

As for the correlational analysis, self-management moderately correlated with social support, self-efficacy, and LBP knowledge, and was lowly associated with belief in treatment, self-efficacy, and LBP knowledge, and was lowly associated with belief in treatment effectiveness. Only physical function (both ADLs and IADLs) had no significant correlation with self-management. (Table 3).

Table 3 The Correlations Matrix of the Study Variables (n = 174)

Variable	1	2	3	4	5	6	7
1. Self-efficacy							
2. LBP knowledge	.14						
3. Social support	.36**	.15					
4. Belief in treatment effectiveness	.16	.10	.35**				
5. ADLs	-.09	.16	.01	.12			
6. IADLs	.12	.07	-.04	.10	.21**		
7. Self-management	.39**	.33**	.43**	.29**	.01	.03	

Note. *p < .05 and **p < .01

Model testing results showed that a causal model of self-management among adults with chronic LBP fitted with the data and was able to explain 33.00 % of the variance in self-management by four factors. These factors: self-efficacy, social support, LBP knowledge, and belief in treatment effectiveness directly, affected self-management. Social support directly and indirectly affected self-management through self-efficacy and belief in treatment effectiveness (Figure 3).

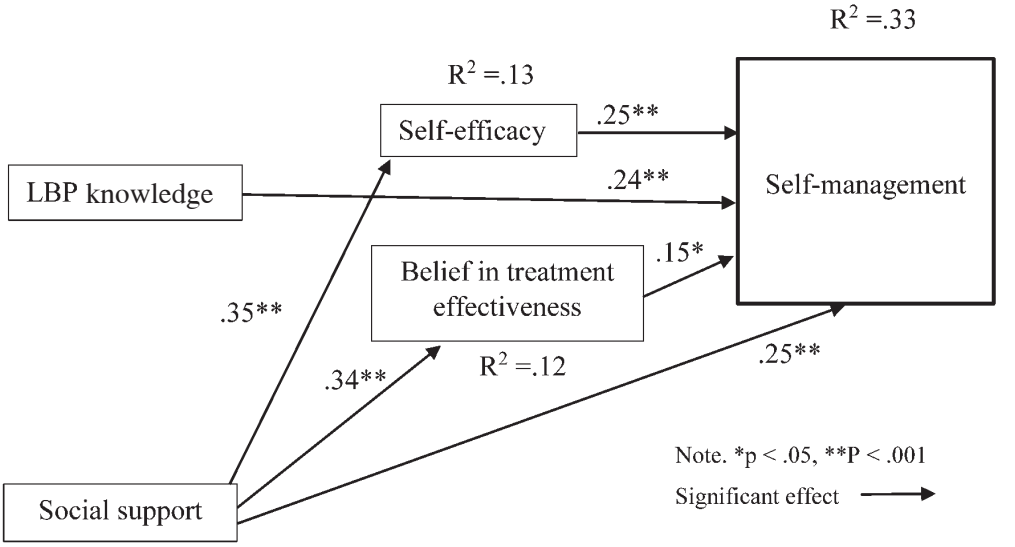

Figure 3 Final model of self-management among adults with chronic LBP

Discussion

Overall, the final model was able to explain 33.00% of the total variance in self-management. Four out of five factors (self-efficacy, social support, LBP knowledge, and belief in treatment effectiveness) could explain self-management among adults with chronic LBP.

The finding that self-efficacy positively directly affected self-management among adults with chronic LBP was consistent with previous research in which persons who had a high level of self-efficacy were also more likely to achieve self-management.[12-17] This finding is in accordance with Lorig and Holman's self-management concept, in that high scores of self-efficacy (7 or higher) indicate a good chance that the action plan of self-management will be accomplished.[21] Also, this finding is supported by Bandura's theory that high self-efficacy will positively affect performance of a specific task.[25]

Belief in treatment effectiveness positively directly affected self-management, which indicated that adults with chronic LBP who had belief in treatment effectiveness also complied with treatment and performed self-management. This finding was congruent with the prior studies of type 2 diabetes.[12,15] Belief in treatment effectiveness is the psychological state in which an individual holds a premise to be true, and this belief influences their engagement in back pain management advice and treatment plans.[5,40] Moreover, belief about treatment depends on the adult with chronic LBP's experiences; hence, experiences with success lead to beliefs about treatment effectiveness which influence self-management performance.[5,10,40]

LBP knowledge positively and directly affected self-management. This finding was congruent with previous studies.[15-16] It implies that adults with chronic LBP, who have LBP knowledge can understand ways to undertake self-management performance, thus leading them to suitable decision-making that facilitates self-management performance. Nevertheless, findings related to LBP knowledge had no significant indirect effect on self-management through self-efficacy and belief in treatment effectiveness. These findings opposed prior studies.[15-16] In this study, it may be possible that LBP knowledge directly guided participants to make decisions for performing self-management. Thus, LBP knowledge might not help adults with chronic LBP to increase self-efficacy and belief in treatment effectiveness in order to perform

self-management. Furthermore, Thai adults with LBP may have depended on their physician's LBP knowledge and decisions of treatments;[23] this may have also influenced this non-significance.

Physical function had no significant direct effect on self-management. This opposed the findings in some prior studies.[16,26] A possible explanation for this non-significant association may be due to the measurement of physical function: the MBAI and Chula ADLs.[27] Both tools may not be appropriate measurements of physical function in adults with chronic LBP due to the fact that they could not assess the different information about the effect of lower back function on their ability to manage activities of daily living.

The finding that social support positively directly affected self-management, was in accordance with the previous studies in which social support promoted behavior changes and self-management performance.[13-14,17] Support from family,[16] friends, and health care providers enhanced persons' ability to change behaviors and perform self-management.[15,17] Informational support increases persons' understanding and decision-making to implement appropriate self-management.[15]

This study also found that social support indirectly affected self-management through self-efficacy and belief in treatment effectiveness, and this is consistent with prior studies.[12,15] In this study, most adults with chronic LBP were married; they may have been reinforced to high self-efficacy by family encouragement which led them to learn and practice the necessary skills for coping with the condition in order to achieve self-management. Furthermore, social networks, family, and health care providers may encourage adults with chronic LBP to adopt interpretations of their disease and treatment, which lead them to have a belief in treatment effectiveness and enhanced self-management performance.

Limitations

There are some limitations. First, the sample consisted of three subtypes of chronic LBP, and each subtype had several diagnoses. That may have influenced the learning and application of the appropriate self-management of each participant, leading to different self-management performance. Hence, caution is required to explain knowledge of self-management to other groups of chronic LBP. Second, the measurement of physical function by using the MBAI and Chula ADLs may be unsuitable for assessing physical function in adults with chronic LBP.

Conclusions and Recommendations

Findings from this study supported some of the study's conceptual framework in that self-efficacy, belief in treatment effectiveness, LBP knowledge, and social support were factors enhancing self-management. These factors logically contribute to the theoretical basis of nursing science and can explain the phenomenon of self-management among adults with chronic LBP. The implications for nursing practice are that nurses should develop interventions to promote self-management for adults with chronic LBP by increasing self-efficacy, belief in treatment effectiveness, LBP knowledge, and social support. For further research, a duplication of this study is recommended, using causal model testing by using a subtype of chronic LBP and a specific instrument for measuring physical function.

Acknowledgement

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การจัดการตนเองในผู้ใหญ่ที่มีอาการปวดหลังส่วนล่างเรื้อรัง: แบบจำลองเชิงสาเหตุ

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บทคัดย่อ: อาการปวดหลังส่วนล่างเรื้อรังเป็นปัญหาสำคัญของระบบกระดูกและข้อในผู้ใหญ่ และต้องการการจัดการตนเองเพื่อการดำเนินชีวิตอยู่กับอาการปวดหลังส่วนล่างเรื้อรังนี้ได้อย่างพึงพอใจ ในการส่งเสริมการจัดการตนเองนั้นมีความจำเป็นต้องทำความเข้าใจปัจจัยต่างๆว่าที่มีอิทธิพลต่อการจัดการตนเองอย่างไร การศึกษานี้จึงมีวัตถุประสงค์เพื่อทดสอบแบบจำลองเชิงสาเหตุของการจัดการตนเองในผู้ใหญ่ที่มีอาการปวดหลังส่วนล่างเรื้อรัง กลุ่มตัวอย่างคือ ผู้ใหญ่ที่มีอาการปวดหลังส่วนล่างเรื้อรังจำนวน 174 คน มีอายุระหว่าง 30-60 ปี จากสี่โรงพยาบาลในเขตภาคเหนือของไทย มีการสุ่มกลุ่มตัวอย่างโดยวิธีการสุ่มแบบหลายขั้นตอน เก็บรวบรวมข้อมูลโดยใช้เครื่องมือวิจัยที่ประกอบด้วย แบบบันทึกข้อมูลประชากร แบบวัดการจัดการตนเอง แบบวัดสมรรถนะแห่งตนสำหรับการจัดการอาการปวดหลังส่วนล่างเรื้อรัง แบบสอบถามความรู้เกี่ยวกับอาการปวดหลังส่วนล่าง แบบวัดการทำกิจวัตรประจำวันขั้นพื้นฐาน แบบวัดการทำกิจวัตรประจำวันขั้นสูง แบบสอบถามการสนับสนุนทางสังคม และแบบวัดความเชื่อในประสิทธิผลของการรักษา วิเคราะห์ข้อมูลโดยใช้สถิติเชิงพรรณนา สถิติสหสัมพันธ์เพียร์สัน และสถิติการวิเคราะห์เส้นทางความสัมพันธ์เชิงสาเหตุ

ผลการวิจัย พบว่า การจัดการตนเองเกี่ยวกับอาการปวดหลังส่วนล่างเรื้อรังโดยรวมอยู่ในระดับปานกลาง แบบจำลองเชิงสาเหตุของการจัดการตนเองในผู้ใหญ่ที่มีอาการปวดหลังส่วนล่างเรื้อรังเป็นแบบจำลองเชิงสาเหตุที่มีความเหมาะสมกับข้อมูลดี สามารถทำนายการจัดการตนเองได้ร้อยละ 33.00 จาก 4 ปัจจัยที่มีอิทธิพลโดยตรงต่อการจัดการตนเอง ประกอบด้วย สมรรถนะแห่งตน การสนับสนุนทางสังคม ความรู้เกี่ยวกับอาการปวดหลังส่วนล่าง และความเชื่อในประสิทธิผลของการรักษา และการสนับสนุนทางสังคมเป็นปัจจัยเดียวที่มีอิทธิพลทั้งโดยตรงและโดยอ้อมต่อการจัดการตนเองโดยผ่านสมรรถนะแห่งตน และความเชื่อในประสิทธิผลของการรักษา ผลการวิจัยนี้แสดงให้เห็นว่า พยาบาลสามารถนำไปเสริมสร้างการจัดการตนเองในผู้ใหญ่ที่มีอาการปวดหลังส่วนล่างเรื้อรังอย่างเหมาะสมได้โดยการประยุกต์ใช้สี่ปัจจัยทำนายการจัดการตนเองดังกล่าว

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คำสำคัญ: แบบจำลองเชิงสาเหตุ อาการปวดหลังส่วนล่าง ปัจจัยที่มีผลต่อการจัดการตนเอง อาการปวดหลังส่วนล่างเรื้อรัง การจัดการตนเอง

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