International Journal of Medical Science and Clinical Research Studies

ISSN(print): 2767-8326, ISSN(online): 2767-8342

Volume 03 Issue 10 October 2023

Page No: 2247-2258

DOI: https://doi.org/10.47191/ijmscrs/v3-i10-26, Impact Factor: 6.597

Effectiveness of Pain Self-Management Support Intervention on Pain and its Interference with Daily Activities among Patients with Cancer in Vinh Phuc Province

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ABSTRACT

Objective: This study was carried out to evaluate the effectiveness of pain self-management support intervention on pain and its interference with daily activities among patients with cancer in Vinh Phuc Province after 1 week of discharge from the hospital.

Methods: A randomized controlled clinical trial was used. The study was conducted on 116 patients with cancer with pain treated at Vinh Phuc Provincial General Hospital. The pain self-management support intervention for patients with cancer through health education consultation is carried out 1 week before the patient leaves the hospital until 01 week after discharge. Intervention content includes providing information about pain, building pain management skills, and supporting patients with cancer with self-care. Patients completed the questionnaire before implementing the program and 01 week after discharge. The research period is from February 2023 to the end of July 2023. Data were analyzed using SPSS 20.0 using descriptive statistics algorithms, parametric and non-parametric tests.

Results: In the intervention group, there was a statistically significant difference in the average score before intervention and after 1 week of discharge in worst pain (4.88 ± 1.55 and 3.64 ± 1.45, $p < 0.05$), mildest pain (2.14 ± 1.05 and 1.68 ± 0.92, $p<0.05$), moderate pain (3.54 ± 1.39 and 2.38 ± 1.04, p<0, 05), current pain (3.09 ± 1.76 and 2.25 ± 1.25, $p<0.05$), general pain (3.41 ± 1.28 and 2.49 ± 1.07, $p <0.05$), pain interference on daily activities (4.23 ± 1.75 and 3.48 ± 1.91, $p <0.05$). The study also showed that there was a statistically significant difference in the average score between the intervention group and the control group at 1 week of discharge in worst pain (3.64 ± 1.45 and 5.00). ± 1.71, $p<0.05$), moderate pain (2.38 ± 1.04 and 3.46 ± 1.61, $p<0.05$), current pain (2.25 ± 1.25 and 3.31 ± 1.88, $p < 0.05$), general pain (2.49 ± 1.07 and 3.50 ± 1.52, $p < 0.05$), pain interference on daily activities days (3.48 ± 1, 91 and 4.35 ± 2.18, $p<0.05$). The influence coefficient for general pain intensity is moderate (Cohen's d = 0.76), and the influence coefficient for the influence of pain on daily activities is small (Cohen'sd = 0.42).

Conclusions: The pain self-management support intervention for patients with cancer through health education consultation has been effective in reducing pain and reducing pain interference with daily activities in patients with cancer. In caring for patients with cancer, it is recommended to strengthen health education and counseling on pain management for them so that they can self-manage pain and contribute to controlling their pain.

KEYWORDS: Pain, patients, pain interference, cancer, pain self-management.

ARTICLE DETAILS

Published On:
13 October 2023

Available on:
https://ijmscr.org/

INTRODUCTION

Cancer is a malignant disease of cells, cells proliferate indefinitely and are disorganized without following the body's growth control mechanisms[1]. In recent years, the incidence rate has increased. Cancer in the world is increasing rapidly and alarmingly. According to the International Cancer Research Organization GLOBOCAN 2020, there are about 19.3 million new cases of cancer and nearly 10 million deaths due to cancer in the world [32]. In Vietnam, in 2020 there will be about 182,000 new cancer cases, about 122,690 deaths, and about 353,826 people living with cancer, a relatively large death rate (126.04/100,000 people)[10].

Pain is a common and common symptom in patients with cancer : Pain appears in 59% of patients undergoing treatment; 64% in patients with advanced, metastatic, and end-stage disease; 33% in patients after treatment; 53% of patients are at all stages of the disease; Among patients with pain, more than one-third classified their pain as moderate or severe. The overall rate of pain is over 50% in all types of cancer [35]. Although painkillers are highly effective, pain control remains a persistent problem in people with cancer. Uncontrolled cancer pain will negatively affect daily activities, psychology, severity of the disease, and quality of life of the patient [12],[31], and the patient can even decline. exhaustion and death [1]. Currently, there are many methods to treat cancer pain: Surgery, radiotherapy, chemotherapy, targeted therapy, and immunotherapy, but complete, long-term pain elimination is rarely achieved [34]. According to McCracken, to effectively control pain, in addition to the treatment and care of medical staff, there is also the active participation of the patient. The patient's participation is even more important as the outpatient treatment time increases[24]. To do that, patients with cancer need to have basic knowledge, attitudes, and skills about pain management. On the other hand, according to our research, the need for information on patients with cancer is high (86.8%)[4]. Therefore, pain management education for patients with cancer is essential. Research by Antje Koller and colleagues (2017) reported positive effects of pain management education for people with cancer in reducing pain levels, improving quality of life, increasing self-efficacy, and reducing the impact of pain on the patient's daily activities [17],[38]. In Vietnam, although the Ministry of Health has issued palliative care guidelines for people with cancer and AIDS (2006), and palliative care guidelines (2022). However, pain management educational interventions for patients have not received much attention and focus, including in Vinh Phuc province. According to a report from the Center for Disease Control of Vinh Phuc province in early 2023, Vinh Phuc province has 2,362 patients, the number of people with cancer/100,000 people is 202 patients[2], higher than the national average, so palliative care is needed (pain) needs attention and attention. Therefore, treatment and palliative care, including pain, for patients in Vinh Phuc province is one of the issues that need attention, and pain management education for patients with cancer is even more necessary for patients to actively participate in their pain management with medical staff. For the above reasons, we conducted research: "Effectiveness of pain self-management support intervention on pain and its interference with daily activities among patients with cancer in Vinh Phuc Province".

METHODS

Participants: In this study, the research subjects are patients with cancer in Vinh Phuc province, meeting the following criteria:

Selection criteria: Criteria for selecting research subjects: (1) Age 18 years or older, (2) confirmed diagnosis of cancer; (3) have pain symptoms; (4) no cognitive disorders; (5) Ability to listen, speak, read, and write in Vietnamese; (6) agree to participate in the study.

Exclusion criteria: The following patients were not selected as research subjects because they affect the accuracy of the research results: (1) Physical condition index (ECOG/WHO) at stage 4; (2) pain caused by other chronic diseases: gout, arthritis, ...; (3) patients with cancer with surgery $\leq$ 01 months; (4) have or are currently participating in an intervention program; (5) did not fully participate in health information and education intervention activities and assessments in the study.

Time and place of study: Research period: From January 2022 to September 2023. Location: Conducted at Vinh Phuc General Hospital and the patient's family.

Study design: Using intervention research methods with a randomized control group.

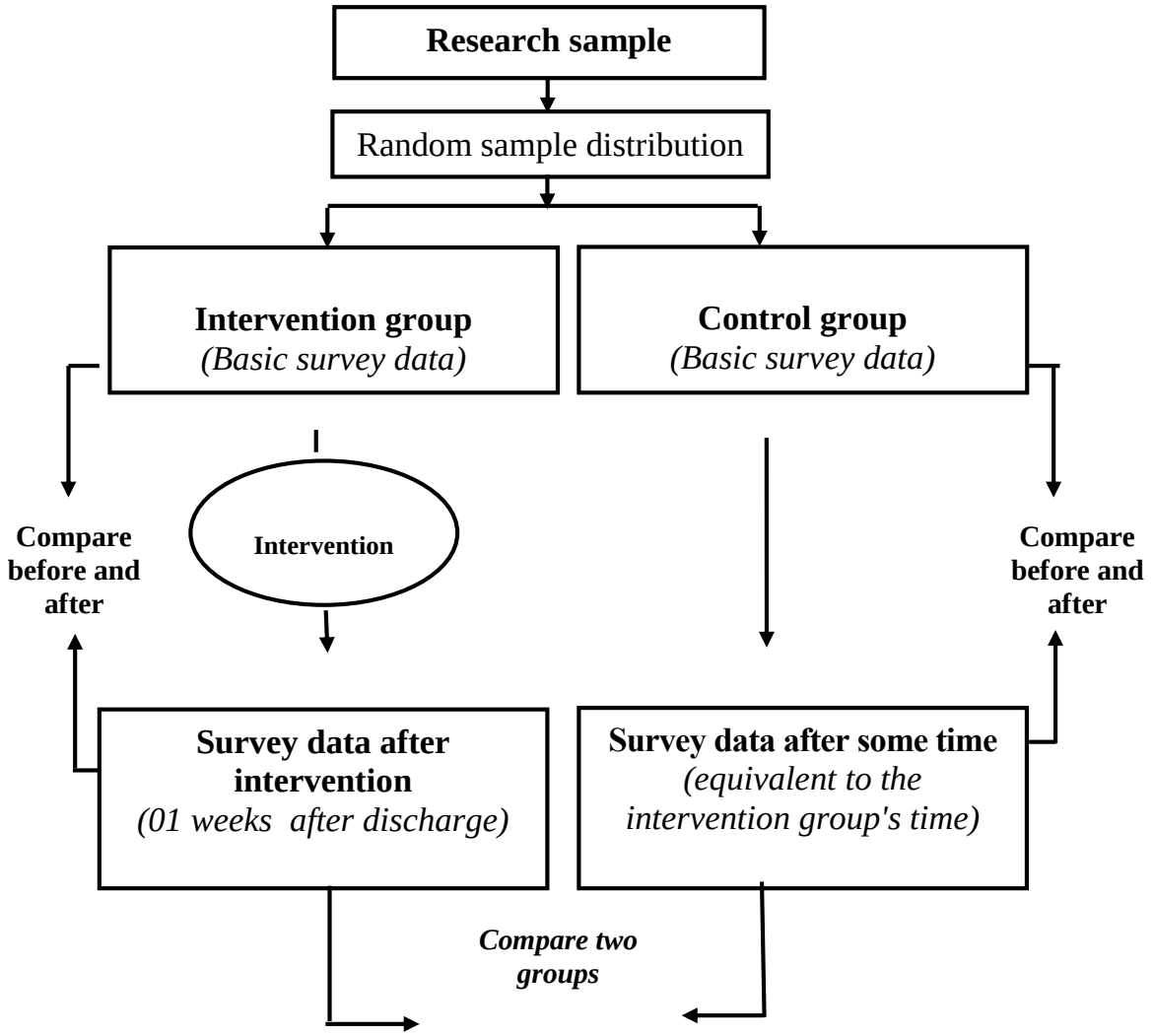

Image1. Research design diagram

Sample and sampling methods

Sample size: The sample size is calculated according to the formula:

$$n = Z^2_{(\alpha,\beta)} \quad \frac{2s^2}{\Delta^2}$$

Inside:

n: Required research sample size.

s: Standard deviation from a previous study calculated as (s1+s2)/2

Δ: The difference in mean value between the two groups that the researcher expected.

According to Musavi, M research and colleagues (2021) studied the effectiveness of a pain management program in people with cancer. The results of the standard deviation of the average pain score in the intervention group and control group were: 0.64 and 0.69[27]. Therefore s=(s1+s2)/2 is (0.64 + 0.69)/2 = 0.66. The desired difference in the mean pain score between the intervention group and the control group is Δ = 1.1.

α: Allowable level of type 1 error; α is chosen to be 0.05.

β: Allowable level of type 2 error, β is chosen to be 0.2.

Z: The Z value obtained from the Z table corresponds to the selected α and β values of 7.9.

Applying the formula, we calculate n = 45. The total number of patients with cancer needed in the two groups is theoretically 90 patients.

In this study, the dropout rate was 20%, so the minimum number of patients in both groups was 90/(1-0.2) = 112 people. We selected 116 patients to participate in the study, each group had 58 patients.

Sampling methods: Every day, we select research subjects that meet the selection criteria to participate in the study. Select until there is an even number of patients, then randomly distribute into the intervention group and control group at a ratio of 1:1 by drawing lots. Choose until each group has 58 patients.

Research tools

General information questions: Consists of 16 questions built based on symptom management theory [18], and concerning the authors' research questions [21], [28]. The

questionnaire includes 02 parts: Patient information fill in and refer to medical records yourself.

The Brief Pain Inventory- Short Form(BPI-SF): This is a comprehensive pain assessment tool whose validity and reliability have been demonstrated in cancer, AIDS, and arthritis settings. The BPI-SF is used to assess pain severity, pain location, impact of pain on daily function, pain medication used, and pain relief effectiveness in the past 24 hours or 1 week. The checklist includes 9 questions, including 04 questions measuring 04 pain conditions (moderate, mildest, worst, and current) and 01 questions measuring pain interference with 07 daily activities using 11-point by NRS: 0 (no pain/no problem) to 10 (unimaginable pain). The BPI – SF has a Cronbach's α internal consistency reliability of 0.84 for the pain intensity scale and 0.89 for the pain interference scale. The standard value of the shortened pain checklist was evaluated to correlate with the VAS score with a statistically significant correlation [15]. On the other hand, BPI – SF is short, easy to understand, completed in 5 minutes, translated into many languages, including Vietnamese (BPI – sfvn)[16], and issued by the Ministry of Health for use in health care nationwide [6]. BPI–SF is the tool with the strongest evidence to choose as a pain assessment tool in patients with cancer [13], [30].

Pain self-management support intervention program and intervention materials

Intervention program to support pain self-management: This program is provided to patients in the intervention group. The program includes three strategies: Providing information, building skills, and supporting patient care. Patients in the intervention group, before being discharged from the hospital, received 02 direct health education consultations on pain management from the nurse in the hospital room in the morning or afternoon (01 information session and 01 technique-building session), and 01 health education consultation session at home (home care support). The time for each health education consultation session is 60 minutes. Patients are provided with information about cancer pain, pain management with medication, other ways to manage pain, and suggestions for patients to live more comfortably; build skills in monitoring, assessing, and reporting pain, using pain medications effectively, creating a pain control plan, using self-care pain management methods, and preventing medication side effects pain relief, Communicate with medical staff; Support patient care by reinforcing pain management knowledge and skills, checking for side effects and discussing side effect management, answering questions about pain management, determining whether the patient has Must go to a medical facility to control pain?

Intervention documents: Patients receive 01 handouts. This document is compiled based on documents: Palliative care guidelines follow decision No. 183/QD-BYT dated January 25, 2022, of the Minister of Health[6]. Guidelines for diagnosis and treatment of some cancer diseases according to Decision No. 1514/QD-BYT dated April 1, 2020, of the Ministry of Health [5].Guidelines for patients, families, and caregivers from the American Society of Clinical Oncology [7], Supporting people with cancer to control pain from the US National Cancer Institute [9], Pain management at home by the American Cancer Society [12], How to manage pain by the Ontario Cancer Care Center [11]. Oregon pain relief guidelines[8]. The compiled document includes the following contents: (1) Part I: Pain related to cancer: (2) Part II: Description of pain; (3) Part III: Plan for pain control; (4) Part IV: Use of pain relievers; (5) Part V: Other ways to control pain; (6) Part VI: Communication with medical staff; (7) Part VII: Seeking support; (8) Part VIII: Advice to help patients' lives more comfortable.

Programm Educational intervention to support pain management for patients with cancer is considered suitable (4.49 ± 0.23), has the potential for clinical application (4.56 ± 0.33), and feasible patient handouts (4.29 ± 0.55). The overall average score of the 23 items is 4,46 ± 0.22. Experts gave several opinions: The program needs to be supplemented with intervention standards, some intervention content needs to be edited accordingly, and intervention documents compiled to hand out to patients. Pilot studies are needed to evaluate the effectiveness of pain management education programs in people with cancer [3, 36].

Assessment standards

Pain assessment criteria:

Pain level (based on pain intensity score in questions 3-6). The pain level of each pain condition (worst, lightest, moderate, now) is classified as no pain: 0 points, mild pain: 1 - 3 points, moderate pain 4 - 6 points, severe pain 7 - 10 points [37].

Average pain score: Total score of pain conditions/4 [33].

Interference of pain with daily activities:

Level of influence: based on the score of each item A–G, question 9 and the level of influence of each item (usual activities, spirit, ability to walk, normal work, relationships with others, sleep, enjoyment of life) is classified: No influence: 0 points, mild: 1 - 3 points, moderate: 4 - 6 points, severe: 7 - 10 points [37].

Average obstacle score: Total influence score/7 [33].

The method of data collection

Data in the study were collected by direct interviews with patients and reference to medical records.

Data analysis:

Use SPSS 22.0 software to analyze data. Using mean comparison tests, frequency comparisons are used to analyze before-after differences within each group or between two groups. The results of the variables are presented in tables and graphs.

Research diagram

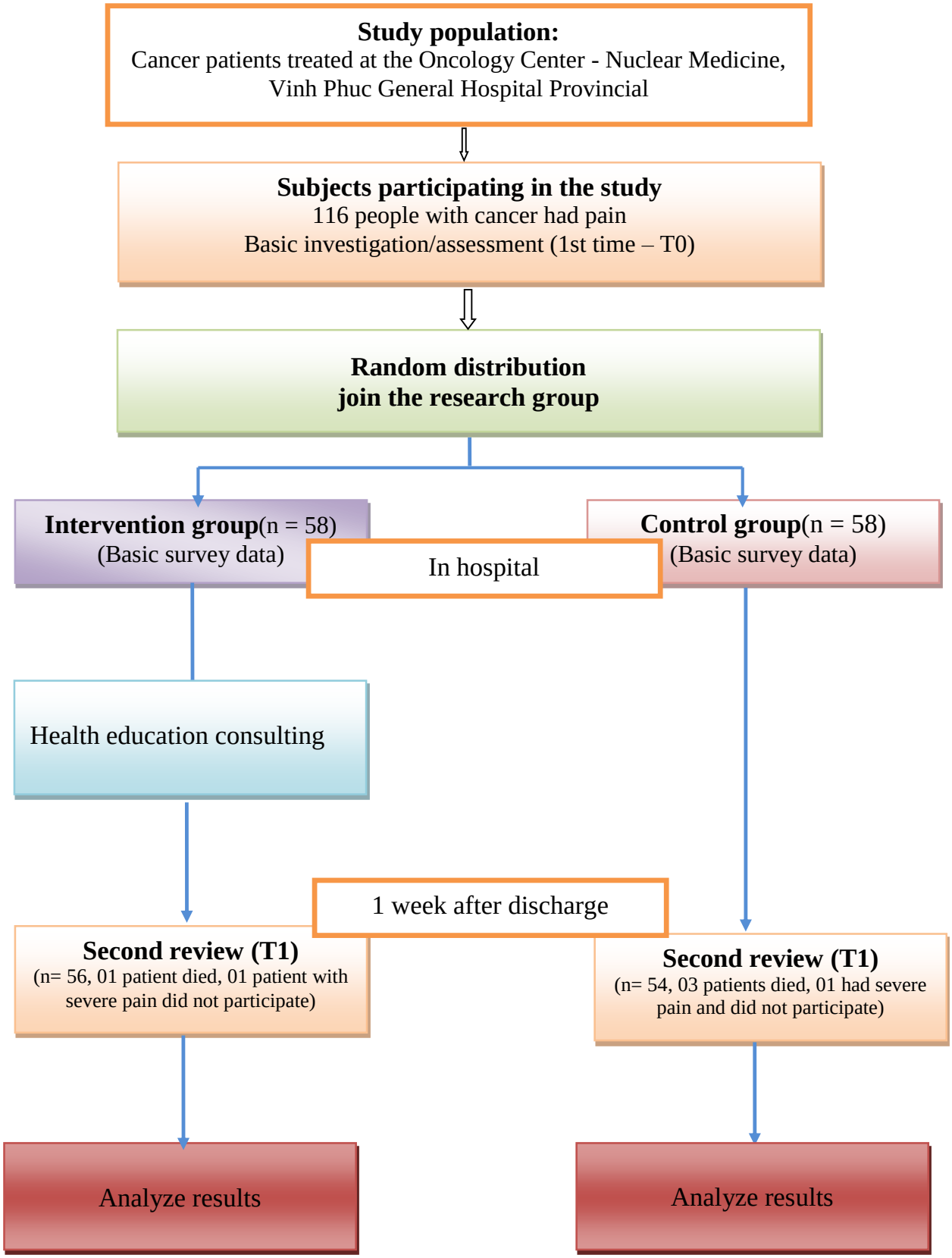

Image 2. Research process diagram

RESULTS

Characteristics of Participants: There were 116 patients with cancer participating in the study. The intervention group and control group both had 58 patients. The results showed no statistically significant difference between the two groups in terms of age, gender, education level, occupation, marital status, and overall patient condition with $p > 0.05$ (Table 1).

Table 1. Comparison of patient characteristics between the intervention group and control group (n= 58)

Variable	Intervention group	Control group	p Value
Year old(Mean±SD)	63.67 ± 10.63	62.57± 9.23	0.55[a]
About n(%)			
Male	48 (82.8)	42(72.4)	0.26[b]
Female	10(17.2)	16 (27.6)	
Education level (n%)			
General education	53 (91.4)	56 (96.6)	0.44[c]
Vocational education, university	05 (8.6)	02 (3,4)	
Occupation n(%)			
Farming	36 (58.6)	38 (65.5)	
Sales/services	01 (1.7)	06 (10.3)	
Worker	05 (8.6)	05 (8.6)	
Craftsman	03 (5.2)	0 (0.0)	0.14[c]
CC/VC	01 (1.7)	0 (0.0)	
Housewife	01 (1.7)	01 (1.7)	
Other	13 (22.4)	08 (13.8)	
Marital status (n%)			
Married	51 (87.9)	50 (86.2)	1.00[c]
Never get married	0 (0.0)	01 (1.7)	
Divorced/widowed/separated	07 (12.1)	07 (12.1)	
ECOG			
Good (0-1)	37 (63.8)	29 (50)	0.19[c]
Poor (2-4)	21 (36,20	29 (50)	

Notes: (a)Independent samples test was used, (b) Chi-square test was used; (c)Fisher's exact test was used

Table 2 shows that patients with cancer in the intervention group and the control group had no statistically significant differences in place of residence, health insurance, primary caregiver, or economic conditions in the intervention group and the control group. control with $p > 0.05$.

Table 2. Comparison of environmental factors between intervention and control groups (n= 58)

Variable	Intervention group	Control group	p Value[c]
Place of residence: n(%)			
City	04 (6.9)	02 (3,4)	
Countryside	38 (65.5)	35 (60.3)	0.48
Mountain/midland region	16 (27.6)	21 (36.3)	
Health Insurance: n (%)			
Have	58 (100)	57 (98.3)	1.00
Are not	0 (0.0)	01 (1.7)	
Primary caregiver: n (%)			
Dad or Mom	01 (1.7)	0 (0.0)	
Wife or husband	34 (58.6)	27 (46.6)	0.36
Child	19 (32.8)	27 (46.6)	
Other relatives	04 (6.9)	04 (6.9)	
Economic conditions: n(%)			
Poor households	04 (6.9)	01 (1.7)	
Near-poor households	07 (12.1)	11 (19.0)	
Households have an average standard of living	44 (75.9)	45 (77.6)	0.32
Households have a good income	03 (5.1)	01 (1.7)	

Note: (c)Fisher's exact test was used.

Table 3 shows that patients with cancer in the intervention group and control group did not have statistically significant differences in cancer, disease stage, treatment, and illness duration in the intervention group and control group. with $p > 0.05$.

Table 3. Comparison of health and disease factors between the intervention group and control group (n= 58)

Variable	Intervention group	Control group	p Value[c]
Cancer: n(%)			
Liver	08 (13.8)	06 (10.3)	
Lung	17 (29.3)	21 (36.2)	
Stomach	08 (13.8)	08 (13.8)	
Breast	03 (5.2)	04 (6.9)	0.92
Colorectal cancer	05 (8.6)	03 (5.2)	
Nasopharynx	04 (6.9)	02 (3,4)	
Other	13 (22.4)	14 (21.1)	
Disease stage: n (%)			
Phase I	02 (3,4)	01 (1.7)	
Phase II	13 (22.4)	09 (15.5)	0.69
Phase III	06 (10.3)	08 (13.8)	
Stage IV	37 (63.8)	40 (69.0)	
Treatment: n (%)			
Chemotherapy/targeted treatment	21 (36.2)	12 (20.7)	
Surgery	01 (1.7)	01 (1.7)	
Surgery and radiotherapy/chemotherapy/radiation + chemotherapy	05 (8.6)	05 (8.6)	0.42
Chemotherapy and radiotherapy	06 (10.3)	07 (12,10)	
CSGN	25 (43.1)	33 (56.9)	
Illness duration: n(%)			
Under 01 year	24 (41.4)	32 (55.2)	
From 01 to less than 3 years	12 (20.7)	13 (22.4)	0.32
From 3 years to less than 5 years	09 (15.5)	06 (10.3)	
From 5 years or more	13 (22.4)	07 (12.1)	

Note: (c)Fisher's exact test was used.

Effectiveness of intervention to support self-management of pain on pain and its interference with daily activities

Effectiveness of pain management educational intervention on pain in patients with cancer.

Table 4. Comparison of average pain scores in the intervention group, control group before intervention and after 1 week of discharge from the hospital; between the intervention group and the control group 1 week after discharge from the hospital

Variable	Intervention group			Control group			p Value[c]
	Mean±SD			**Mean**±SD			
	T0	T1	Pd	T0	T1	Pd	
Worst pain	4.88 ± 1.55	3.64 ± 1.45	0.00	5.24 ± 1.66	5.00 ± 1.71	0.10	0.00
Mild pain	2.14 ± 1.05	1.68 ± 0.92	0.00	2.46 ± 1.49	2.22 ± 1.31	0.09	0.13
Moderate pain	3.54 ± 1.39	2.38 ± 1.04	0.00	3.72 ± 1.51	3.46 ± 1.61	0.08	0.00
Current pain	3.09 ± 1.76	2.25 ± 1.25	0.00	3.44 ± 2.07	3.31 ±1.88	0.46	0.01
General pain	3.41 ± 1.28	2.49 ± 1.07	0.00	3.71 ± 1.55	3.50 ± 1.52	0.84	0.00

Notes: (a)Independent samples test was used, (d)Paired T – test was used

Results in Table 4 show that in the intervention group, the average scores of worst pain, mildest pain, moderate pain, current pain, and general pain were statistically significantly different before and after intervention. ($p<0.05$). However, in the control group there was no statistically significant difference before intervention and after 1 week of discharge from the hospital ($p > 0.05$). After 1 week of intervention, there was a statistically significant difference in the average scores of worst pain, mildest pain, moderate pain, current pain, and general pain between the intervention group and the control group ($p < 0, 05$).

Effectiveness of pain self-management support intervention on pain interference with daily activities.

Table 5. Comparison of the average score of pain impact on daily activities in the intervention group, the control group before intervention and after 1 week of discharge from the hospital; between the intervention group and the control group 1 week after discharge from the hospital

Variable	Intervention group			Control group			p Value[a]
	Mean±SD			**Mean**±SD			
	T0	T1	P[d]	T0	T1	P[d]	
Normal activities	4.13 ± 1.85	3.34 ± 1.90	0.001	4.83 ± 2.49	4.52 ± 2.35	0.71	0.04
Spirit	2.57 ± 1.95	2.09 ± 1.83	0.008	3.09 ± 2.44	3.02 ± 2.35	0.65	0.02
Go	4.39 ± 2.36	3.48 ± 2.25	0.000	4.72 ± 2.57	4.30 ± 2.49	0.07	0.08
Normal work	5.0 ± 2.25	3.96 ± 2.13	0.000	4.93 ± 2.59	4.63 ± 2.51	0.16	0.14
Relationships with others	4.36 ± 2.32	3.64 ± 2.15	0.002	4.63 ± 2.55	4.31 ± 2.31	0.13	0.12
Sleep	4.13 ± 2.57	3.46 ± 2.49	0.001	5.13 ± 2.64	4.70 ± 2.22	0.06	0.01
Enjoy life	5.05 ± 2.14	4.39 ± 2.16	0.006	5.39 ± 2.23	4.96 ± 2.19	0.054	0.17
General influence	4.23 ± 1.75	3.48 ± 1.91	0.000	4.67 ± 2.09	4.35 ± 2.18	0.67	0.03

Note: (a)Independent samples test was used, (d)Paired T – test was used

The results of Table 5 show that in the intervention group, the average score of pain's impact on daily activities was statistically significant, and the overall impact was statistically significant before and after intervention (p<0.05).. However, in the control group, there was no statistically significant difference in the impact of pain on daily activities and the impact of general pain before and after 1 week of discharge from the hospital (p> 0.05). At 1 week after intervention, there was a statistically significant difference in normal activities (p = 0.04), spirit (p = 0.02), and sleep (p = 0.01), general hindrance (p=0.03).

Table 6. Effect size of pain self-management support Intervention on pain interference with daily activities.

Variable	Intervention group	Control group	Cohen's d
	Mean±SD	**Mean**±SD	
General pain	2.49 ± 1.07	3.50 ± 1.52	0.76
Pain interference with daily activities.	3.48 ± 1.91	4.35 ± 2.18	0.42

Table 6 shows that 1 week after discharge from the hospital, the influence coefficient of general pain score was at a moderate level (Cohen's d = 0.76), and the influence of pain was at a small level (Cohen's d = 0.42).

DISCUSSION

Effectiveness of pain self-management support Intervention on pain among patients with cancer

In this study, the pain self-management intervention program for patients with cancer was initially effective on pain level 01 week after discharge from the hospital. Table 4 shows that the average score of all pain conditions (worst, mildest, moderate, current), and general pain in the intervention group decreased 01 week after discharge and there was a significant difference. Statistical significance of average score before and after intervention (p<0.05). In particular, the overall pain score before and after intervention was 3.41 ± 1.28 and 2.49 ± 1.07 (p = 0.00). In contrast, in the control group, the study showed that all pain and general pain conditions had a decrease in average pain scores but not significantly and the differences were not statistically significant at the time before and 1 week after surgery. hospital (p ≥0.08). Previous research by Lai et al (2004) on the effect of pain education on pain experience in people with cancer. In this study, eligible cancer pain patients were randomly assigned to an experimental group (received 10-15 minutes of pain education per day for 5 days, n = 15) or a control group (n = 15). The results showed that, after completing the intervention program, the average scores of worst, mildest, average, and current pain in the intervention group were significantly different before and after the intervention, the difference is statistically significant (p<0.05), the difference was not statistically significant in the control group (p>0.05). Comparing the average score of pain conditions between the intervention group and the control group 5 days after the intervention, only the average pain score and current pain had a statistically significant difference between the two groups (p <0, 05)[22]. Another study by Koh, SJ et al (2018) with a quasi-experimental research design on pain management education was conducted on a group of patients with cancer. In total, before intervention, there were 176 patients, and after 1 week of intervention, there were 163 patients. Interventions to support pain management for patients with cancer are effective in reducing pain intensity, the average pain intensity score has a statistically significant difference (p < 0.001). Average scores before and after the intervention of worst pain (6.27±2.60 vs. 4.67±2.64), moderate pain (4.17±2.09 vs. 2.80 ±2, 02), and the mildest pain (1.93±2.10 vs. 1.31±1.69)[19].

The effectiveness of a pain self-management intervention program on pain intensity was also found in the study of Mini et al (2012)[26]. The author conducted research on 38 patients with cancer (20 control group patients and 28 intervention group patients) in Hong Kong. The average pain score in the intervention group decreased significantly 01 week after intervention compared to before intervention (2.65±1.53 vs. 4.70±2.36), this difference is statistically significant (p=0.00). However, this study showed that the average pain score among the intervention group (2.65±1.53) and control group (2.89±1.61)At 1 week after intervention, there was no significant difference in pain scores between the 2 groups, the difference was not statistically significant (p = 0.641).

Another clinical trial study by Musavi et al (2021) was performed on people with metastatic cancer. Patients were randomly assigned to two groups: an intervention group (40 people) and a control group (35 people). During the pain self-management education program, the intervention group is provided with information, skill development, and guidance. Pain level was measured for 7 weeks, research results showed that after the intervention, the average pain score at 1 week after discharge among the intervention group (5.26±0.63), and control group (4.97±0.62) also had no statistically significant difference(p> 0.9)[27].

Based on the findings of our study, as well as previous studies, we can assume that the implementation of pain management education programs for patients with cancer has had a positive impact on reduced pain intensity in the intervention group 01 week after intervention or hospital discharge. The difference in average pain scores and general pain scores was statistically significant (p<0.05). In addition, this study also discovered a statistically significant difference in the average score of pain and general pain between the two groups 01 week after discharge, which some previous studies have not found. shown. This result contributes to proving that the effectiveness of the pain education intervention program for patients with cancer does not only occur in programs lasting 4 to 8 weeks as in the Breivik study. H [14] but it can also occur in shorter intervention programs (1 week after intervention or after hospital discharge) as in this study. This is very meaningful in pain care and pain-related factors in patients with cancer.

Effectiveness of pain self-management support intervention on pain interference with daily activities

One of the other important indicators to evaluate pain is how much it affects daily life. By comparing the average score before and 1 week after discharge in the intervention group and the control group (table 5), we found a statistically significant difference in life effects due to pain and general effects. in the intervention group (p<0.05). Meanwhile, in the control group, there was no statistically significant difference (p≥ 0.054). Impact on life due to pain on normal activities, spirit, ability to walk, normal work, relationships with others, sleep, and enjoyment of life in the intervention group at 01 week of discharge from the hospital. The average score decreased compared to before the intervention and there was a statistically significant difference (p<0.001). This result is similar to the study of Koh and colleagues in 2018[19]. However,

On the other hand, Table 7 shows the average score of pain effects between the intervention group and the control group. The study shows that the effects on normal activities, spirit, and sleep have a statistically significant difference. between the two groups (p < 0.05), while the effects on travel, normal work, relationships with others, and enjoyment of life had no statistically significant difference between the two groups. While Lai et al.'s study only affected normal activities, there was a statistically significant difference between the two groups (p<0.05) [22].

Regarding the average pain impact score between the intervention group (2.49 ± 1.07) and the control group (3.50 ± 1.52) at the time of assessment T1 (1 week after discharge from the hospital), the study indicates a statistically significant difference with p < 0.05. This result is similar to the study of Koller and colleagues with an average impact coefficient (Cohen d = 0.6). However, in some other previous studies, when evaluated at a short time after intervention (2 weeks), the difference in general difficulty scores may or may not be statistically significant between the two groups, specifically: Research by Sharif, F on the effectiveness of pain management education on pain intensity and quality of life of patients with cancer when assessed at T1 (2 weeks after intervention) did not show any difference. Diarrhea had a general effect between the 2 groups. However, 4 and 8 weeks after intervention, The average score of the intervention group decreased significantly compared to the control group (p<0.05)[29]. Similar to the research results of Sharif, F, Lin's research also found that 2 weeks after the intervention, there was no significant difference in the average impact score between the intervention group and the control group. However, a significant difference was detected after 4 weeks of intervention in this group [23]. In another study, Miaskowski and colleagues found that immediately after 6 week period of cancer pain management education programs delivered by nurses in the patient's home, scores decreased. average overall impact for the patient[25].

The differences at the time of this T1 evaluation compared to the previous studies presented above may be due to the content and structure of our program being built on the results of the systematic review study. previous pain management health education intervention programs for patients in the period 2010 - 2022 have since inherited the advantages and avoided the limitations of the programs. The content of our program includes providing knowledge and building skills for patients in pain management. While the above programs only have knowledge content or have both knowledge and practice but are not complete. On the other hand, in another related study, we discovered a relationship between pain intensity and life impact due to pain. Therefore,

Thus, the intervention to support self-management of pain for patients with cancer that we implemented is not only effective in reducing pain but also reduces the impact of pain on daily activities in the short term. when performing the intervention (01 weeks after intervention/ 01 weeks after discharge from the hospital) in the intervention group. This result is the scientific basis for the next authors to develop programs and assessment times to suit the actual situation of treatment and care and meet the patient's desire for early pain control.

Effect size

Initial intervention has had a small to large impact on pain intensity and the impact of pain on patients with cancer. Table 6 shows the average score difference between the intervention group and the control group with a moderate effect coefficient (Cohen's d = 0.76). Thus, the intervention of pain management education and counseling for patients has had an impact on the pain intensity of patients with cancer. The results of this study provide additional data to confirm the positive influence of a pain management education intervention program on general pain intensity that some previous authors such as Koh, SJ et al (2018), and Koller (2018) have not pointed out[20]. Koller's results showed that the effect coefficient for moderate and worst pain intensity remained in the small to moderate range. The results of our study showed worst pain (Cohen's d =0.86), and moderate pain (Cohen's d =0.79). The impact coefficient for the impact of general pain at 1 week after discharge from the hospital was at a small level (Cohen's d = 0.42). This result is similar to the study of Mahsa and colleagues (Cohen's d = 0.0). ,46)[27]. Research by Koller (2018) at 6 weeks after discharge from the hospital, the intervention program had a large impact coefficient on daily activities (Cohen's d = 0.9). Therefore, the intervention program needs to provide additional support and guidance to patients on activities to improve daily activities in the future. By measuring the output at the time before and 01 week after the intervention to evaluate the effectiveness of the intervention program, we see that the intervention supports self-management of pain for patients with cancer through educational counseling intervention. The health education we provide to patients with cancer in Vinh Phuc province is initially effective in reducing pain intensity and the impact of pain on daily activities. However, the program needs to continue to be implemented in the next phase to improve the effectiveness of pain management and the lives of patients with cancer. The impact of pain on daily activities. However, the program needs to continue to be implemented in the next phase to improve the effectiveness of pain management and the lives of patients with cancer. The impact of pain on daily activities. However, the program needs to continue to be implemented in the next phase to improve the effectiveness of pain management and the lives of patients with cancer.

CONCLUSION

The pain self-management support intervention for patients with cancer through health education consultation has been effective in reducing pain and reducing pain interference with daily activities in patients with cancer. In caring for patients with cancer, it is recommended to strengthen health education and counseling on pain management for them so that they can self-manage pain and contribute to controlling their pain.

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