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Pain and its Interference with Daily Activities among Patients with Cancer in Vinh Phuc Province and Some Related Factors

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ABSTRACT

Objective: This study was conducted to determine the pain severity, pain interference severity with daily activities, and pain-related factors, pain interference-related factors among patients with cancer in Vinh Phuc province.

Materials and methods: A cross-sectional descriptive study was conducted on 116 patients with cancer aged 18 years and older in Vinh Phuc province from January 2023 to the end of June 2023.

Results: The overall average pain score and pain interference score of cancer patients were 3.64±1.5 and 4.57±1.95. Mild pain at 56.9%, moderate pain at 37.9%, and severe pain at 5.2%. Pain interference was mild 33.6%, moderate 50.9%, severe 13.8%, and no obstacle 1.7%. The factors affecting pain are education (*Z=-2.26,p=0.024*), disease stage (χ^2=11.79,p=0.008), pain medication used (χ^2=74.56,p=0.00), and the patient's condition (Z=-4.42,p=0.00). Factors affecting pain interference are education (Z=-2.22,p=0.027), disease stage (χ^2=9.88,p=0.02), analgesic used (χ^2=15.75,p=0.00), perfomance status (Z =-7.1,p=0.00), cancer type (χ^2 = 13.16,p=0.04), and pain of patients (χ^2 =17.16,p=0.00).

Conclusions: Pain and its interference with daily activities in moderate and severe patients with cancer account for a relatively high rate. The pain of patients with cancer was related to education, stage of disease, pain medication used, and performance status (ECOG). These factors and cancer type are associated with pain interference. The pain of patients with cancer is related to pain interference.

KEYWORDS: Pain, patients, pain interference, cancer

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INTRODUCTION

Cancer is a malignant disease of cells, cells proliferate indefinitely, are disorganized, and do not follow the control mechanisms of the body's development[1].In recent years, The incidence of cancer in the world is increasing rapidly and alarmingly. According to the International Organization for Research on Cancer GLOBOCAN 2020, there are about 19.3 million new cases and nearly 10 million deaths from cancer worldwide. In Vietnam, in 2020, there are about 182,000 new cancer cases, about 122,690 deaths, and about 353,826 people living with cancer, the mortality rate is relatively high (126,04/100,000 people)[7]. Cancer is a burden and rapidly increasing in Vietnam and around the world [6].

Pain is the most common, common, and most feared symptom in patients with cancer. Pain occurs in 59% of patients being treated; 64% in advanced, metastatic, end-stage patients; 33% in patients after the treatment is cured; 53% of patients in all disease stages; Of those with pain, more than a third classified the pain as moderate or severe. The overall pain rate is over 50% in all tumor types [21]. Although, there are many treatments for cancer pain: Painkillers, surgery, radiation therapy, chemotherapy, immunotherapy, targeted therapy, etc… most of these methods aim to reduce or eliminate pain. However, complete and permanent eradication of pain is rarely achieved, which remains a persistent problem in cancer patients. Uncontrolled cancer pain will negatively affect daily activities, psychological well-being, increase the severity of the disease and reduce the patient's quality of life, even death from pain. exhausted [1].

In Vietnam today, the issue of palliative care is increasingly focused. On May 19, 2006, the Ministry of Health issued

Decision No 3483/QD - BYT on national guidelines on palliative care for NBUT and AIDS [3] and updated and promulgated according to Decision No. 183 /QD-BYT dated 25/01/2022 on guidelines for palliative care [4]. This is the legal basis for implementing comprehensive care and treatment activities to meet the needs of palliative care and help NBUT reduce suffering and improve quality of life.

Vinh Phuc is a province in the key economic region of the Northern Delta, a bridge connecting the Northern Midlands and Mountains with the capital Hanoi. In recent years, along with socio-economic development, NBUT in the province is increasing day by day. At the beginning of 2023, Vinh Phuc Province has 2362 cancer patients, and the number of cancer patients per 100,000 population is 202 higher than the national average, so palliative care (pain) needs attention and attention. Therefore, a survey study to provide an overview of the pain and pain interference with the daily activities of cancer patients is essential in palliative care. We conducted a study on "*Pain and its pain interference with daily activities among patients with cancer in Vinh Phuc province and some related factors.*" The study aimed to determine the pain severity, pain interference severity with daily activities, and pain-related factors, pain interference-related factors among patients with cancer in Vinh Phuc province.

METHODS

Participants

Participants are patients with cancer in Vinh Phuc province, who meet the following criteria:

Selection criteria

Criteria for selecting research subjects:(1) Age 18 years or older, (2) cancer diagnosis, (3) pain, (4) no cognitive disorder,(5) able to listen, speak, read, and write in Vietnamese, (6) agree to participate in the study.

Exclusion criteria

The following patients are not selected for the study because it affects the accuracy of the research results:(1) Having other chronic diseases such as diabetes, chronic obstructive pulmonary disease , mental illness, arthritis, etc…, (2) surgery ≤ 01 months.

Time and place of study

The study period was from January 2023 to June 2023. Location at Cancer for Nuclear Medicine and Oncology, Vinh Phuc General Hospital.

Study design*:* Cross-sectional descriptive research method.

Sample and sampling methods

Sample Size*:* Applying the formula to calculate the sample size a ratio we have:

$$n = \frac{z^2_{1-\frac{\alpha}{2}} \times p(1-p)}{d^2}$$

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n: Minimum sample size; Z (Reliability coefficient), with 95% confidence, then Z = 1.96; p is the percentage of patients with cancer with severe or moderate or mild pain. The study by Young Ho Yun et al (2004) had 43.9% severe pain, 31.1% moderate pain, and 25.0% mild pain. Choose p=0.439[23]; d (desired absolute precision) take d=0,1. Applying the formula:

$$n = \frac{1.96^2 \times 0.439 \times (1-0,439)}{0.1^2} = 96$$

Sampling methods: Select all patients with cancer that met the selection criteria at the time of data collection. The study has selected 116 patients to participate in the study.

Data collection

The study used a brief pain checklist (BPI - SF) consisting of 9 questions to assess pain severity, pain location, impact of pain on daily activities, analgesics used, and effective pain relief in the last 24 hours. Question 2 about the location of pain (head, face, neck, chest, abdomen, limbs...). Questions 3-6 about worst, average, least, and pain now intensity; each pain intensity was measured by an 11-point NRS: 0 (no pain) to 10 (unbelievably painful). Question 7 about painkillers used. Question 8 on analgesic efficacy as measured by NRS 11 percentiles: 0% (no pain relief) to 100% (complete pain relief). Question 9 is the interference of pain with 07 daily activities (general Activity, mood, walking ability, normal work, erlations with other people, sleep, and enjoyment of life); Pain hindrance to each activity was measured by an 11-point NRS: 0 (no interference) to 10 (complete interference) [12].

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

Assessment standards

Pain assessment criteria*:* Pain level based on pain intensity score of each item 3-6. The pain level of each pain condition is classified: No pain (0 points), mild pain 1-3 points, moderate pain 4-6 points, and severe pain 7-10 points [22]. Mean pain score: Total score of pain conditions/4. Classification of general pain level based on the average pain score: Mild pain [1.4); moderate pain [4.7); severe pain [7, 10] points [20].

Interference of pain with daily activities*:* Difficulty level: based on the score of each item A–G, sentence 9 and the level of difficulty of each item is classified: No pain interference (0 points), mild: 1-3 points, moderate 4-6 points, severe 7-10 points[22]. Mean pain interference score: Total score of items/7. Classify the level of general pain interference based on the mean pain interference score: No pain interference [0-1) points, Mild [1.4) points; moderate [4.7) points, and severe [7.10] points [20].

Data analysis: Use SPSS 22.0 for analysis. Using frequency, percentage, and mean to describe pain, pain interference; using the Kruskall-Wallis One-way Anova test, the Mann-

Whitney test identifies the factors related to pain, and interference of pain with daily activities.

RESULTS

Characteristics of Participants

Out of the total 116 patients with cancer who participated in the study, 77.6% male, 22.4% female, 65.5% were elderly cancer patients, 96.6% Kinh ethnicity, 94% general education, married 87.1%, rural/mountainous/midland 94.8%; lung 33.8%, liver 12.1%, stomach 13.8%, colorectal 6.9%, and breast 6.0%; late stage 78.5%; therapy: Chemotherapy and radiation therapy 11.2%, chemotherapy/targeted 28.4%, palliative care 50%, other 10.4%; Analgesic used at level 2 (66.4%), level 1 (29.3%), level 3 (4.3%); good performance status 56.9%. Health Insurance 99.1%; main carer is father/mother/spouse/child 93.1%; agriculture 62.1%, workers 8.6%, service/trade 6%, other 23.3%; poor households 15.5% and average/good 84.5%.

Pain and its interference with daily activities

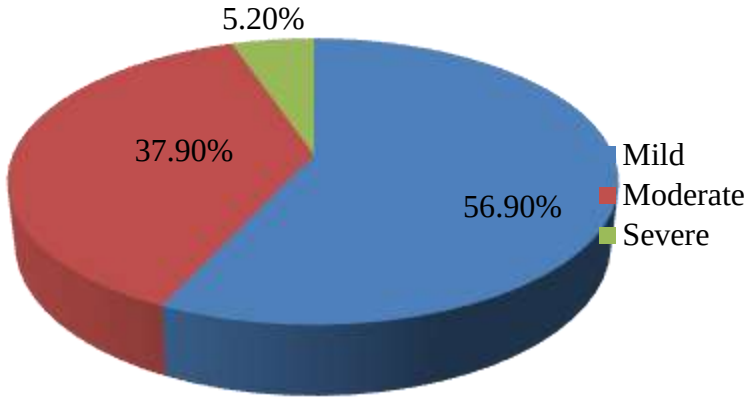

Figure 3.1. Classification of general pain in patients with cancer (n=116)

Figure 3.1 shows the general classification of pain in patients with cancer: mild pain 56.9%, moderate pain 37.9%, and severe pain 5.2%.

Table 3.1. Classification of pain intensity and its mean score in patients with cancer (n=116)

Item	**Classification**: n(%)			**Mean ± SD**
	Mild pain	Moderate	Severe	
Worst pain	30 (25.9)	69(59.4)	17(14.7)	5.14±1.66
Pain least	98(84.5)	15(12.9)	03(2.6)	2.36±1.39
Pain average	46 (39.7)	64(55.2)	04(5.2)	3.70±1.49
Pain now	68(58.6)	39(33.6)	09(7.8)	3.37±2.00
General mean score				**3.64±1.50**

Table 3.1 shows moderate and severe pain: worst pain 74.1%; pain at least 15.5%; pain average of 60.3% and pain now 41.4%. The mean score of worst pain was 5.14±1.66, pain least 2.36±1.39, pain average 3.70±1.49, pain now 3.37±2.0 and overall pain average 3.64±1.5.

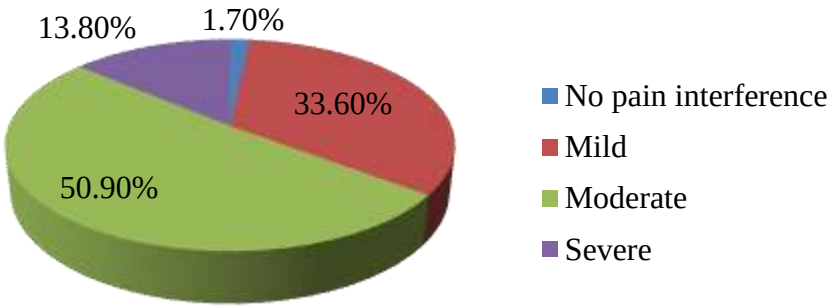

Figure 3.2. General classification of pain interference with daily activities in patients with cancer (n=116)

Figure 3.2 shows that patients with cancer have the highest percentage of Moderate pain interference (50.9%), mild pain interference (33.6%), severe pain interference (13.8%), and no pain interference (1.7%).

Table 3.2. Classification and the mean score of pain interference with daily activities in patients with cancer (n=116)

Item	**Classification:** n(%)				**Mean ± SD**
	No pain interference	Mild	Moderate	Severe	
General Activity	2(1.7)	48(41.4)	39(33.6)	27(23.3)	4.59±2.23
Mood	15(12.9)	68(58.6)	27(23.3)	6(5.2)	2.89±2.19
Walking Ability	7(6.0)	34(29.3)	50(43.1)	25(21.6)	4.67±2.45
Normal work	4(3.4)	33(28.4)	44(37.9)	35(30.2)	5.08±2.39
Relations with other people	4(3.40)	45(38.8)	37(31.9)	30(25.9)	4.63±2.40
Sleep	11(9.5)	29(25.0)	44(37.9)	32(27.6)	4.77±2.67
Enjoyment of life	1(0.9)	30(25.9)	45(38.8)	40(34.5)	5.34±2.20
General mean score					**4.57±1.95**

Table 3.2 shows 87.1% (mood) to 99.1% (enjoyment of life). The highest mean score is 5.34±2.22 (enjoyment of life) and the lowest mood (2.89±2.19). The general mean score is 4.57±1.95.

Factors related to pain and its interference with daily activities

Table 3.3. Factors related to pain in patients with cancer (n=116)

Variables	**Category**	**Frequency**	**Average rank**
Academic level	Common	109	60.28
	Intermediate/college/undergraduate/graduate	07	30.71
	Mann-Whitney test		Z=-2.26, p=0.024
Cancer stage	State 1	03	15.33
	State 2	22	50.34
	Stage 3	14	44.25
	Stage 4	77	65.10
	Kruskall- Wallis One – way Anova test		$\chi^2 = 11.79$, p=0.008
Analgesic used	Level 1	34	18.84
	Level 2	77	72.41
	Level 3	05	114
	Kruskall- Wallis One – way Anova test		$\chi^2 = 74.56$, p=0.00
Perfomance status (ECOG)	Good	66	46.53
	Poor	50	74.30
	Mann-Whitney test		Z=-4.42, p=0.00

Table 3.3 shows the level of education, cancer stage, pain medication used and physical condition related to pain of cancer patients ($p<0.05$).

Table 3.4. Factors related to pain interference with daily activities (n=116)

Variables	Category	Frequency	Average rank
Academic level	Common	109	60.25
	Intermediate/college/undergraduate/graduate	07	31.21
	Mann-whitney test		Z =-2.22, p=0.027
Type of cancer	Liver	14	59.14
	Lung	38	46.84
	Stomach	16	67.50
	Breast	07	65.43
	Colorectal	08	44.00
	Throat	06	50.83
	Other	27	73.44
	Kruskall- Wallis One – way Anova test		χ^2 =13.16, p=0.04
Cancer stage	State 1	03	2.67
	State 2	22	55.09
	Stage 3	14	53.75
	Stage 4	77	62.51
	Kruskall- Wallis One – way Anova test		χ^2 =9.88 p=0.02
Analgesic used	Livel 1	34	42.54
	Level 2	77	63.02
	Level 3	05	97.40
	Kruskall- Wallis One – way Anova test		χ^2=15.75, p=0.00
Performance status (ECOG)	Good	66	39.19
	Poor	50	83.99
	Mann-Whitney test		Z = **-7.1** , p=0.00

Table 3.4 shows the patient's diabetes mellitus, cancer type, cancer stage, analgesic used, and performance status about pain interference with daily activities ($p<0.05$).

Table 3.5. The relationship between pain and pain interference with daily activities (n=116)

Variables	Category	Frequency	Average rank
Pain	Mild pain	66	48.07
	Moderate	44	69.55
	Severe	06	92.25
	Kruskall- Wallis One – way Anova test		χ^2 =17.16; p=0.000

Table 3.5 shows pain related to pain interference with daily activities in patients with cancer ($\chi^2 = 17.16$, $p = 0.000$).

DISCUSSION

Pain of patients with cancer

The pain status includes worst pain, pain least, pain moderate, and pain now. Table 3.1 shows the worst pain with mild (25.9%), moderate (59.5%), and severe (14.72%). This result is similar to that of Tu Van Nguyen (2019) with pain levels of 28.24%, 42.75%, and 29.01%. However, the results of Cielito C Reyes-Gibby ranged from no pain (28%), mild (32%), moderate (20%), and severe (24%) [17]. The results of these authors differ from our results because the study was conducted on inpatient or inpatient and outpatient cancer patients with pain and no pain or in elderly cancer patients. For the pain least: Research shows that cancer patients have mild (84.5%), moderate (12.9%), and severe (2.6%). Tu Van Nguyen's results were 56.49%, 15.27% and 0.76%. In addition, this study also showed that no pain accounted for 27.48%[5]. In terms of pain average, there were mild (39.7%), moderate (55.5%), and severe (5.2%). The results of the study were different from the results of Tu Van Nguyen, with no pain (0.76%), mild pain (57.25%), average (40.46%), and severe (1.53%)[5]. Results also differed from those of Cielito C Reyes-Gibby: No pain (27%), mild (42%), moderate (23%), and severe (8%)[17]. The pain now was mild (58.6%), moderate (33.6%), and severe (7.8%). The results were similar to Vu Van Vu with mild pain (49.23%), average (29.1%), and severe (15.87%)[6]. However, the results were different from Tu Van Nguyen's with no pain (16.79%), mild (55.73%), average (26.72%), and severe (0.76%)[5]. Cielito C Reyes-Gibby had no pain (33%), mild (34%), moderate (18%), and severe (18%).

Mean pain score: Table 3.1 shows that the mean is the worst pain, pain least, pain average, and pain now is 5.14±1.66; 2.36±1.39; 3.70±1.49, and 3.37±2.0. The results are significantly different from the research results of some domestic and foreign authors. The results of the worst pain, pain least, pain average, and pain now of the author Tu Van Nguyen are 5.07±2.07, 1.92±1.61,3.22±1.62, 2.47±1.66[5]; Kalyadina, SA: 3.7 ±2.9, 1.2 ±1.5, 2.6±2.2, and 2.2±2.2 [14]. Regarding the classification of general pain, Figure 3.1 shows that cancer patients have mild pain 56.9%, moderate (37.9%), and severe (5.2%). The results of Young Ho Yun had 25.0% mild pain, 31.1% moderate, and 43.9% severe[23]. Tegegn's study had no pain (8.4%), mild (25.3%), moderate (57.8%), and severe (8.4%)[20]. The differences in these studies may be due to the authors studying patients with recurrent or metastatic cancer or in patients with pain and no pain cancer. From the above results, we see that the rate of moderate and severe pain ranges from 44.1% to 75%, accounting for a high rate, so medical facilities need to pay attention, and focus on pain care and treatment for cancer patients, while enhancing health education so that patients are actively involved in their pain management. The general mean pain score in Table 3.1 is 3.64±1.5 higher than that of Kalyadina, SA (2.4 ± 2.0)[14] performed on blood cancer patients and advanced stages presenting with pain, and no pain. However, in research by Lee, SH in late-stage cancer patients and Vu Van Vu's study in advanced cancer, the general mean pain score was higher, specifically (4.23±1.68, and 5.55±3.27 compared to 3.64±1,5)[6],[16] and this is consistent because cancer patients in late or advanced stages often have large tumors that have spread or metastasized, so cancer patients often have higher pain scores

Pain interference with daily activities

Pain interference with daily activities through general activity, mood, walking ability, normal work, relations with other people, sleep, and enjoyment of life. Research results in Table 3.2 show that pain affects all daily activities of patients.

Pain interference to general activity, Table 3.2 shows that NBUT has no pain interference (1.7%), mild (41.4%), moderate (33.6%), and severe (23.3%). Thus, cancer patients have a very high rate of difficulty from mild to severe, accounting for 98.3%. Cielito C. Reyes-Gibby's results were higher with mild to severe obstruction accounting for 60% (23% mild, 15% moderate, and 23% severe)[17]. This difference is because we conducted on 100% of patients with pain, while this author studied inpatient and outpatient cancer patients, and had both pain and no pain, so cancer patients who did not interfere with general activities often account for a high percentage (40% compared to 1.7%). The rate of no pain interference in general activity in the study was also lower than that of Tu Van Nguyen (16.03% without interference and mild to severe problems 83.97%) in elderly cancer patients but included: Both patients have pain and no pain, so a higher rate of no interference is appropriate. The Moderate interference in this general activity is similar to the results of this author and Klepstad P[15] (4.59±2.23 compared to 4.70±2.67 compared to 4.8±3.6). In addition, some results of other authors have higher or lower thresholds in this activity than in our study specifically: Kalyadina, SA (3.0±2.8)[14].

Pain interference to mood: No pain interference (12.9%), mild (58.6%), moderate (23.3%), severe (5.2%). This result has a different ratio of difficulty levels than some previous authors: The Cielito C. Reyes-Gibby study had 43%, 25%, and 13% difficulty levels from no interference to severe, and 18%[17], Tu Van Nguyen was 17.56%, 19.85%, 45.80%, and 16.75%. The general mean score is 2.89±2.46, similar to the results of Kalyadina, SA (2.7±2.7)[14] and lower than Young Ho Yun (6.0±2.8)[23].

Pain interference to walking ability: No interference (6.0%), mild (293%), moderate (43.1%), severe (21.6%). The results of the study were different from the Cielito C. Reyes-Gibby study, with the rate of no interference to severe of 44%, 25%, 13%, and 18%[17]; Tu Van Nguyen's odds are 19.32%, 10.69%, 31.30%, and 39.69%[5]. The general mean score (4.67±2.45) is similar to the results of Tu Van Nguyen (4.95±2.93), Klepstad P et al (2002) (4.2±3,6)[15], higher than that of Kalyadina, SA [14] and lower than that of Young Ho Yun (5.0± 3.4)[23].

Pain interference to normal work: No interference (3.4%), mild (28.4%), moderate (37.9%), severe (30.2%). The results of classifying the level of interference to normal work are also different from Cielito C. Reyes-Gibby (42%, 14%, 14%, and 36%)[17], Tu Van Nguyen (18.32%, 12.21%, 35.88%, and 33.59%)[5]. The general mean score (5.08± 2.38) at a moderate level similar to that of Klepstad P (5.4±3.8)[15], almost similar to Nguyen Van Tu (4.60 ± 2.74); taller than Kalyadina, SA (2.9±3.0)[14]. M. Alizadeh–Khoei (3.59±2.92) and shorter er of Young Ho Yun (6.1±3.2)[23], Aisyaturridha, A (6.7±3.18)[8].

Pain interference to relations with other people: No interference 3.4%, mild to severe 96.6%. While there are no interference and the interference from mild to severe by Cielito C. Reyes-Gibby (52%, and 48%)[17] and Tu Van Nguyen (41.98%, and 58.02%)[5]. From this result, it is shown that the study of cancer patients with pain presentation has a higher degree of an obstruction than the study of cancer patients in general, which is consistent with the fact that when patients with pain will limit their daily activities. The general mean score is 4.63±2.4, higher than that of Kalyadina, SA (1.5±2.2)[14] and similar to Young Ho Yun (4.8±3.3)[23].

Pain interference to sleep: Mild to severe sleep disturbance 90.5% had a higher prevalence of Cielito C. Reyes-Gibby in the general cancer patients (67%)[17] and was similar to the study of Tu Van Nguyen in the elderly in-hospital cancer patients (90.08%)[5]. The general mean score (4.77 ± 2.67) is similar to Young Ho Yun (4.9 ± 3.3)[23],

higher than that of Kalyadina, SA (2.8±3.0),[14] and lower than that of Tu Van Nguyen (5.65±2.64)[5].

Pain interference to the enjoyment of life: The results showed that most patients encountered obstacles, from mild to severe accounted for 99.1%, much higher than the results of Cielito C. Reyes-Gibby (54%)[17], almost similar to Tu Van Nguyen (90.08%)[5]. The general mean score (5.34 ± 2.20), which is similar to Tu Van Nguyen (5.71±2.64)[5], Aisyaturridha, A (5.8± 3.16)[8]; higher than that of Kalyadina, SA (2.4±2.8)[14] and lower than that of Young Ho Yun (6.2± 3.4)[23].

General pain interference: No interference (1.7%), mild (33.6%), moderate (50.9%), severe (13.8%). Thus, patients with pain almost encountered interference in life at mild and severe accounting for 98.3%, of which moderate and severe accounted for 64.7%. The results of Tegegn also showed that the overall interference from mild to severe was found in most cancer patients (89.2%)[20]. This rate is lower than ours (89.2% compared to 98.2%) because of the participating cancer patients, 8.4% of patients did not have pain. From these results, we found that most of the patients with pain interference from mild to severe (89.2-98.2%). They require supportive care during pain management. The general mean score is 3.64 ±1.5 higher than Kalyadina, SA (2,5 ± 2.4)[14] because of our study, 100% of the participating cancer patients had pain symptoms. Another study by S L. Beck in NBUT with pain interference had our higher general mean score (4.32 ±2.64 compared to 3.64 ±1.5) possibly due to the sample size being more (410 compared to 116) [9].

Factors related to pain and its interference with daily activities

Factors related to pain in patients with cancer

The results of Table 3.3 show that there is a relationship between academic level and pain of cancer patients, the difference in pain is statistically significant between the groups of academic level (*p=0.024*). Broemer's study (2023) also had a difference in pain between the groups (p=0.028)[10]. However, academics did not have a relationship with pain in Sun Hee Lee's study (F=2.11,p=0.11)[16]. The stage of the disease is related to pain, pain results have a statistically significant difference between groups (χ^2=11.79,p=0.008). This result is similar to the study of Lam Thanh Nguyen(2019), and Broemer (2023). These authors also show that pain has a statistically significant difference in the disease stage groups (p=0.001)[2], and (p<0.001)[10].

The results in Table 3.3 also show that pain has a statistically significant difference between the level of analgesic used (χ^2=74.56,p=0.00). The results are similar to those of Sun Hee Lee (p<0.001)[16]. However, the study of Lam Thanh Nguyen(2019) did not have a relationship between pain and the group of analgesics used. In addition, in some previous authors, this relationship has not been mentioned in the research results[10],[48]. This relationship needs to be further determined in further studies. The results of Table 3.3 show that there is a relationship between pain and performance status (ECOG). The level of pain has a difference between the good and bad groups, the difference is statistically significant (p=0.00). The good performance status group had a lower mean pain score than the poor group (3.07 ± 1.12 compared to 4.4 ± 1.62). Patients in performance status can be more active and involved in pain care and treatment activities than poor perfomance status, so pain control is better. This result is also shown in the study of Young Ho Yun (r=0.24,p<0.01)[23], Cielito C Reyes-Gibby (r=0.403,p<0.004)[17], and Luo-Ping Ger (OR=10,95%CI: 3.85-30.32, p<0.01)[13]. From the above analysis, it is shown that to well control pain for cancer patients, medical facilities need to pay attention to improving physical condition along with pain control for cancer patients.

Factors related to pain interference with daily activities

The results of Table 3.4 show that there is a relationship between academic level and pain interference in cancer patients, the difference in pain interference is statistically significant between groups (p=0.027). In Tegegn's study, there was a difference in pain interference between the groups of academic, but there was no statistical significance (χ^2=7.38,p=0.22)[20]. Cancer type and stage are associated with pain interference. There was a statistically significant difference between pain interference results between groups of cancers (χ^2=13.16

, p=0.04) and stage groups (χ^2=9.88, p=0,02). While pain interference difference between disease groups and disease stages in Tegegn's study has not been mentioned or has no statistical significance (χ^2=9.54,p=0.10)[20]. The pain interference has a statistically significant difference between the analgesic used (χ^2=15.75,p = 0.00). This result has not been mentioned by previous authors. Also in Table 3.4, the results identify a statistically significant difference between the good performance status and poor perfomance status, the difference is statistically significant (Z=-7.1,p=0,00). The statistically significant difference in mean scores between the performance status groups was also shown in Young Ho Yun's study (r=0.39,p<0.001)[23]. From the above analysis, we found that along with pain control, treatment facilities need to pay attention to improving the performance status of cancer patients.

Relationship between pain and Interference of pain with daily activities

According to Cleveland, Charles S acute pain associated with cancer treatment is usually well treated and well tolerated, but disease pain or persistent post-treatment pain can persist for weeks or months, affecting badly for almost every aspect of a patient's life. Pain can affect activity and appetite, having a direct impact on the course of the disease[11]. The results of our study in Table 3.5 have also determined the relationship between pain and pain interference. There was a statistically significant difference between the levels of pain interference (χ^2=17.16,p=0.000).

This result is similar to the research results of Nienkete Boveldt, the author also showed that pain is related to the obstacles in the dynamic particles ($p<0.1$)[19].

CONCLUSIONS

Pain and pain interference in cancer patients were of moderate to high severity (43.1%, and 64.7%). The cancer pain is related to the academic, the stage of the disease, the analgesic used, and the patient's performance status. These factors and cancer risk factors are associated with pain interference with daily activities. Pain is associated with pain interference.

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