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Palliative care consultation team: symptom relief in first 48 hours of hospitalization

Equipe interconsultora em cuidados paliativos: alívio de sintomas nas primeiras 48 horas de hospitalização

Equipo interconsultor en cuidados paliativos: alivio de síntomas en las primeras 48 horas de hospitalización

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ABSTRACT

Objective: To compare the relief of symptoms provided by palliative care consultation team (PCCT) compared to the traditional care team (TC), in patients with advanced cancer in the first 48 hours of hospitalization. **Method:** Allocated to PCCT Group and TC Group, this study assessed 290 patients according to the Edmonton Symptom Assessment System (ESAS) within the first 48 hours of hospitalization. The main outcome was a minimum 2-point reduction in symptom intensity. **Results:** At 48 hours, the PCCT Group had a 2-point reduction in the mean differences (p <0.001) in pain, nausea, dyspnea, and depression; and TC Group, on nausea and sleep impairment (p <0.001). Multiple Logistic Regression found for the PCCT Group a greater chance of pain relief (OR 2.34; CI 1.01-5.43; p = 0.049). **Conclusion:** There was superiority of the PCCT Group for pain relief, dyspnea and depression. There is a need for more studies that broaden the understanding of team modalities.
Descriptors: Palliative care; Terminal Patient Care; Symptom Assessment; Pain Management; Treatment Effectiveness.

RESUMO

Objetivo: Comparar o alívio de sintomas obtido por equipe interconsultora em cuidados paliativos (ICP) ao obtido por equipe de cuidado tradicional (CT), em doentes com câncer avançado nas primeiras 48 horas de hospitalização. **Método:** Alocados nos Grupos ICP e Grupo CT, 290 pacientes foram avaliados pela Escala de Sintomas de Edmonton (ESAS) nas primeiras 48 horas da hospitalização. O desfecho principal foi a redução mínima de 2 pontos na intensidade de sintomas. **Resultados:** Em 48 horas, o Grupo ICP teve redução de 2 pontos nas médias das diferenças (p < 0,001) da dor, náusea, dispneia e depressão; e o Grupo CT, na náusea e prejuízo do sono (p < 0,001). Regressão Logística Múltipla mostrou para o Grupo ICP maior chance de alívio da dor (RC 2,34; CI 1,01-5,43; p = 0,049). **Conclusão:** Houve superioridade do Grupo ICP para alívio da dor, dispneia e depressão. Estudos que ampliem a compreensão sobre modalidades de equipe são necessários.
Descritores: Cuidados Paliativos; Cuidados a Doentes Terminais; Avaliação de Sintomas; Manejo da Dor; Efetividade de Tratamento.

RESUMEN

Objetivo: Comparar el alivio de síntomas obtenido por equipo interconsultor en cuidados paliativos (ICP) al obtenido por equipo de cuidado tradicional (CT), en enfermos con cáncer avanzado en las primeras 48 horas de hospitalización. **Método:** Alocados en los Equipos ICP y Equipo CT, 290 pacientes han sido evaluados por la Escala de Síntomas de Edmonton (ESAS) en las primeras 48 horas de la hospitalización. El desenlace principal ha sido la reducción mínima de 2 puntos en la intensidad de síntomas. **Resultados:** En 48 horas, el Equipo ICP tuvo reducción de 2 puntos en las medias de las diferencias (p < 0,001) del dolor, náusea, disnea y depresión; y el Equipo CT, en la náusea y perjuicio del sueño (p < 0,001). Regresión Logística Múltiple mostró para el Equipo ICP mayor oportunidad de alivio del dolor (RC 2,34; CI 1,01-5,43; p = 0,049). **Conclusión:** Hubo superioridad del Equipo ICP para alivio del dolor, disnea y depresión. Estudios que amplíen la comprensión acerca de las modalidades de equipo son necesarios.
Descriptores: Cuidados Paliativos; Cuidados Paliativos al Final de la Vida; Evaluación de Síntomas; Manejo del Dolor; Eficacia del Tratamiento.

INTRODUCTION

Cancer patients, especially at an advanced stage of the disease, have multiple symptoms that deteriorate functionality and negatively impact their quality of life. Among the symptoms reported there are pain, fatigue, nausea, drowsiness, anxiety, anorexia, insomnia, depression, and others; and it is common to seek the emergency room to control their acutization[1-2].

The management of symptoms in palliative care in oncology is complex and requires the action of prepared teams. In the last month of life, 66% of patients come to the hospital for acute management, 25% report feeling safer in hospitalization[3]; and in about 70% of them, the gateway is the emergency room[1].

Humanized assistance to these patients demands effective and fast control of symptoms, considering their fragility and short life expectancy, besides the fact that several of these symptoms are susceptible to control rapidly. However, the quality of the control of symptoms in terminal patients is still insufficient, and one of the causes seems to be related to the organization and process of work of the teams. There are palliative care teams that provide patients with integrated care, palliative care teams that offer medical interconsultation, guiding treatment but not providing care, and other teams are not specialized in palliative care but provide patients with integrated care. Different palliative care patient care strategies are under development [4-5] and require effectiveness testing on the adequacy of care team models, the number and type of professionals included, and the allocation criteria for patients in different team modalities, among others. Few studies have compared the effectiveness of care provided by palliative care teams to palliative care consultation team and traditional care teams in the hospital setting [6-7].

A systematic review study of 8 randomized clinical trials and 32 observational and quasi-experimental trials comparing the effects of palliative care (PC) with traditional care on symptom control and quality of life [6] found that teams of PC showed better control of pain and other symptoms. Of the studies analyzed by the review, 37.5% did not have a control group, and the most investigated environments were "residential palliative care" or *hospice*. Two of the studies took place in the hospital setting[6], both were classified as low degree of evidence, only one had a control group and did not observe differences in symptom control in the first six days of admission[6].

Another systematic review with meta-analysis included nine studies totaling 2,966 patients with life-threatening diseases and compared the effectiveness of palliative care with traditional care on pain control and other symptoms (nausea, anorexia, and tiredness), quality of life and satisfaction. The authors of the review concluded that there was limited evidence on the superiority of any of the treatment modalities, as only one study had a control group, there was great variability of interventions and lack of clarity in team composition[7].

This research was organized considering, on the one hand, the divergence of results from studies comparing the effectiveness of different team modalities in symptom control in palliative care patients and, on the other hand, the lack of knowledge about the quality of pain control and other symptoms in palliative care in short periods of time and in the hospital environment.

OBJECTIVE

To compare the relief of symptoms provided to patients with advanced cancer by palliative care consultation team (PCCT) to the treatment provided by the traditional care team (TC), in the first 48 hours of hospitalization.

METHODS

Ethical aspects

The study complied with all ethical recommendations determined by Resolution 466/2012 of the Conselho Nacional de Saúde (Brazil's National Health Council) and was approved by the Research Ethics Committee of the USP School of Nursing and of the USP School of Medicine, São Paulo, Brazil. Selected patients who agreed to participate signed a two-way Informed Consent Form.

Study Design, location, and period

This is a pragmatic trial that compared the effectiveness of two professional team modalities in symptom control of patients with advanced cancer. The Traditional Care Team (TC Group) was composed of doctors, nurses, physiotherapists and psychologists who had no specialization in palliative care. These professionals were responsible for the diagnosis, proposition and execution of the treatments. The palliative care consultation team (PCCT Group) was composed of doctors, nurses, social workers and psychologists specializing in palliative care, and these professionals were responsible for diagnosing, proposing treatment and monitoring the therapeutic response, making adjustments when necessary, but the unit's traditional staff provided continuous care.

Data collection took place from 2013 to 2014, in the emergency service and inpatient units of two large public teaching hospitals, one general and one cancer hospital, both in the city of São Paulo.

Population or sample; inclusion and exclusion criteria

The data were collected from those who met the inclusion criteria: having advanced cancer, being within 24 hours of hospital admission, being 18 years or older, having adequate comprehension and verbalization, pain greater than or equal to 3 (0-10) or two other symptoms with an intensity equal to or greater than 3 (0-10).

Study Protocol

The patient's attending physician made the group allocation, independently, who could or could not request an consultation group in palliative care to guide the assistance. There was no interference from the researcher during the allocation of patients in the groups.

All patients were evaluated at three moments: at admission, 24 hours and 48 hours after admission, through Demographic and Clinical Characterization Sheet, Edmonton Symptom Assessment System (ESAS), Karnofsky Functional Performance Scale (KPS).

The Demographic and Clinical Characterization Sheet included age, gender, education, marital status, religious practice, monthly family income, tumor site, number of metastases, place of hospitalization, functionality, and symptoms reported upon study

admission. ESAS comprised the evaluation of nine symptoms (pain, tiredness, nausea, depression, anxiety, drowsiness, appetite, wellbeing, and dyspnea)[8], plus sleep[8]. The patient measured the intensity of each symptom using a verbal scale from 0 to 10 [8]. Symptom Burden (SB) was calculated by summing the intensity of the 10 symptoms of ESAS with Sleep. The score may range from 0 to 100; 100 being the largest burden[8]. The Karnofsky Functional Performance Scale (KPS) has 11 categories ranging from 100 (normal) to 10 (dying) [9] and the researcher used it to rate patient functionality.

The tool used for manuscript consolidation was STROBE [10].

Sample size calculation

Sample size was calculated from a pilot sample of 9 individuals from the PCCT group and 10 individuals from the TC group. Thus, the difference in the burden between the initial assessment and the assessment made after 48 hours can be calculated, resulting in a mean ± standard deviation given by 0.2 ± 6.95 for the TC group and -14 ± 5.42. for the PCCT group. Using the Mann-Whitney test, sample size was estimated at 41 individuals for each group, considering a significance level of 5% and power equal to 95%.

Analysis of Results

Primary outcomes were categorical defined as a 2-point reduction in symptoms and a 20-point reduction in symptom burden (SB) in the PCCT and TC groups.

Quantitative variables were expressed as mean, standard deviation and median; and the qualitative variables, in percentage (number of individuals, absolute and percent). For demographic and clinical characteristics, it was used Fisher's exact test for categorical variables and Mann Whitney's for continuous variables. To assess the evolution of symptoms and SB within the first 48 hours, it was defined the following criteria : 1 - 24-hour symptom variation, which corresponded to the 24-hour score minus the admission score; 2 - Symptom variation in 48 hours, corresponded to 48 hours score minus admission score. To verify intra-group changes over 24 hours and 48 hours in relation to the admission moment, it was performed analyzes for the PCCT and TC groups using the Wilcoxon test. To control confounding variables, it was adjusted a multiple logistic regression by controlling the age, KPS, number of metastases, place of hospitalization as fixed effects, and hospitals as random effects to estimate the odds ratio of 2 point reduction in symptoms and 20 points in the symptom burden of the PCCT group in relation to the TC Group. Such values are presented with their corresponding 95% confidence intervals. It was used the program R, version 3.10, for all calculations.

RESULTS

The number of potentially eligible patients was 905, of which 615 did not meet the inclusion criteria and 290 completed the first evaluation (PCCT = 127 and TC = 163); 196, the second (PCCT= 100 and TC= 96); and 158 the third (PCCT= 83 and TC= 75). The TC group included 163 patients, 46% from Instituto Central and 54% from ICESP. The PCCT group included 127 patients, 57.5% from the Central Institute and 42.5% from ICESP (PCCT= 127 and TC= 163). Absence of symptoms, impaired communication, cognitive impairment and extreme fragility were the main reasons for excluding patients.

Table 1 shows that the groups had an equitable distribution in the analyzed variables, except for emergency location (p <0.001) and dyspnea intensity (p = 0.02), higher in the TC Group.

In PCCT Group, the comparison with the symptoms at the moment of the admission and the ones 24 hours and 48 hours after showed reduction statistically significant (p < 0,05) in the score of all the symptoms (except drowsiness) and of the symptoms burden, as Table 2.

Table 1 - Demographic and clinical characteristics in the admission of the patients of the Palliative Care Consultation Team and of the Traditional Care Team

Variables	PCCT = 127* n(%)	TC = 163† n(%)	*p* value
Gender			0.52‡
Male	68(53.5)	74(45.4)	
Female	59(46.5)	89(54.6)	
Marital situation			0.65‡
With partner	79(62.2)	96(58.9)	
Without partner	48(37.8)	67(41.1)	
Age			0.34§
Mean(SD)	59.6(1.3)	57.2(1.5)	
Median (minimum – maximum)	60(24-87)	59(19-84)	
Schooling (years)			0.77 §
Mean(SD)	5.9(0.4)	7.7(0.5)	
Median (minimum – maximum)	4.0(1-16)	8.0(1-19)	
Monthly income¶			0.22§
Mean(SD)	3.1(0.2)	3.5(0.4)	
Median (minimum – maximum)	3.0(0-15)	3.0(0-20)	
Religious Practice			0.80‡
No	52(40.9)	78(47.9)	
Yes	75(59.1)	85(52.1)	
Setting			**< 0.001‡‖**
Emergency Room	56(44.1)	119(73.0)	
First aid room	71(55.9)	44(27.0)	
Tumor location			0.10‡
Gastrointestinal	75(59.0)	82(50.3)	
Genitourinary	11(08.7)	14(08.6)	
Lungs	18(14.2)	23(14.1)	
Others**	23(18.1)	44(27.0)	
KPS§			0.86§
Mean(SD)	43(1.5)	52(1.4)	
Median (minimum – maximum)	40(20-70)	50(20-70)	
Number of deaths			0.20
Up to 30 days	44(34.6)	42(25.8)	
30-90 days	14(11.0)	24(14.7)	
Symptoms on admission			
Pain	7.1(0.2);7.5	7.9(0.2);8.0	0.59
Tiredness	6.9(0.2);7.0	7.1(0.3);7.0	0.92
Nausea	6.3(0.3);7.0	6.7(0.3);7.0	0.86
Anxiety	7.2(0.3);8.0	7.3(0.3);8.0	0.10
Drowsiness	7.0(0.3);7.0	7.7(0.2);8.0	0.13
Appetite	7.6(0.3);8.0	8.1(0.3);9.0	0.19
Wellbeing	6.6(0.3);6.5	6.2(0.3);6.0	0.25
Dyspnea	6.1(0.3);6.0	6.7(0.3);7.0	**0.02‖§**
Depression	5.6(0.4);5.5	4.6(0.4);5.0	0.59
Sleep	7.3(0.3);8.0	7.4(0.3);8.0	0.70
Symptom Burden	47(1.6);47	48(1.4);46	0.30

*Notes: Mean, Standard Deviation, Median; ‖ p <0.05 (Statistically significant); ‡ Fisher's Exact Test; §Mann-Whitney U Test, * PCCT = Palliative Care Consultation Team; †TC = Traditional Care Team; ¶Brazil's Minimum Wage (MW) in 2013 (R$ 678.00/ 1MW) and ** Other: unknown primary location, hematological, lymphatic, melanoma, bone; § KPS: Karnofsky Physical Functionality Index.*

Table 2 - Mean of intensity of symptoms on admission and differences in symptoms intensity over 48 hours in the Palliative Care Consultation Team (PCCT) group

Symptoms	0-24 hours n = 100	0-48 hours n = 83
Pain		
n(%)	75(75)	58(70)
Mean(SD);Median	4.9(0.5);6.0	5.1(0.6);5.0
Differences Mean	-2.1(0.4);-1.0	-2.5(0.5);-2.0
p value	**< 0.001*†**	**< 0.001*†**
Tiredness		
n(%)	77(77)	60(84)
Mean (SD); Median	5.3(0.6);6.5	5.3(0.6);6.0
Differences Mean	-1.0(0.3);0.0	-1.3(0.5);-0.5
p value	0.015*	0.013*
Nausea		
n(%)	46(46)	36(43)
Mean (SD); Median	2.6(0.5);0.0	3.1(0.6);0.0
Differences Mean	-2.3(0.6);-2.0	-3.2(0.7);-3.0
p value	**< 0.001*†**	**< 0.001*†**
Anxiety		
n(%)	60(60)	46(55)
Mean (SD); Median	5.8(0.6);6.0	6.1(0.6);6.0
Differences Mean	-1.0(0.4);0.0	-1.6(0.5);-0.5
p value	0.025*	0.02*
Drowsiness		
n(%)	78(78)	60(72)
Mean (SD); Median	5.9(0.5);7.0	6.5(0.5);7.0
Differences Mean	-1.0(0.5);0.0	-0.7(0.5);0.0
p value	0.074	0.118
Appetite		
n(%)	65(65)	48(56)
Mean (SD); Median	7.2(0.5);9.5	7.1(0.6);10
Differences Mean	-0.6(0.4);0.0	-1.2(0.5);0.0
p value	0.001*	0.022*
Wellbeing		
n(%)	86(86)	67(81)
Mean (SD); Median	6.1(0.5);7.0	6.4(0.5);6.0
Differences Mean	-0.6(0.3);0.0	-0.8(0.3);0.0
p value	0.031	0.022*
Dyspnea		
n(%)	51(51)	41(49)
Mean (SD); Median	1.4(0.4);0.0	1.4(0.4);0.0
Differences Mean	-1.5(0.4);0.0	-2.0(0.5);-2.0
p value	0.002*	**< 0.001*†**
Depression		
n(%)	43(43)	32(38)
Mean (SD); Median	3.1(0.6);0.0	3.7(0.7);0.0
Differences Mean	-0.7(0.6);0.0	-2.4(0.6);-1.0
p value	0.001*	**< 0.001*†**
Sleep		
n(%)	69(69)	52(63)
Mean (SD); Median	5.7(0.6);7.0	4.9(0.6);5.0
Differences Mean	-1.8(0.5);0.0	-1.6(0.5);0.0
p value	**<0.001***	0.005*
Symptom Burden		
Mean (SD); Median	48.0(2.7);45.5	49.5(3.4);46
Differences Mean	-5.0(1.3);-4.0	-5.6(1.7);-5.5
p value	**< 0.001***	0.001*

Notes: Mean, Standard Deviation, Median; NA: not analyzed. p <0.05 (Statistically significant). Wilcoxon Test; † Reduction of 2 points in the symptoms or 20 points in the Symptoms Burden.

Table 3 - Mean of intensity of symptoms on admission and differences in symptoms intensity over 48 hours in the Traditional Care Team (PCCT) group

Symptoms	0-24 hours n = 96	0-48 hours n = 75
Pain		
n(%)	76(79)	62(83)
Mean(SD);Median	4.1(0.5);5.0	3.3(0.5);3.0
Differences Mean	-3.1(0.5);-2.0	-1.3(0.6);1.5
p value	**< 0.001*†**	0.10
Tiredness		
n(%)	73(76)	57(93)
Mean (SD); Median	5.9(0.4);6.0	5.8(0.5);7.0
Differences Mean	-1.7(0.4);0.0	-1.2(0.5);0.0
p value	0.001*	0.054
Nausea		
n(%)	52(54)	40(53)
Mean (SD); Median	2.6(0.4);0.0	2.6(0.5);1.0
Differences Mean	-3.4(0.6);-3.0	-3.4(0.6);-4.0
p value	**< 0.001*†**	**< 0.001*†**
Anxiety		
n(%)	66(69)	53(71)
Mean (SD); Median	4.9(0.5);5.0	5.1(0.6);6.0
Differences Mean	-1.7(0.4);0.0	-1.5(0.5);0.0
p value	**< 0.001***	0.001*
Drowsiness		
n(%)	68(71)	56(75)
Mean (SD); Median	5.5(0.4);6.0	5.6(0.5);6.0
Differences Mean	-1.7(0.4);0.0	-1.1(0.4);0.0
p value	< 0.001*	0.025*
Appetite		
n(%)	74(77)	59(79)
Mean (SD); Median	4.8(0.5);5.0	4.8(0.6);5.0
Differences Mean	-1.1(0.4);0.0	-1.3(0.5);0.0
p value	0.018*	0.009*
Wellbeing		
n(%)	77(80)	62(83)
Mean (SD); Median	5.5(0.4);5.0	5.7(0.5);5.0
Differences Mean	-0.2(0.3);0.0	-0.3(0.4);0.0
p value	0.635	0.564
Dyspnea		
n(%)	34(35)	30(40)
Mean (SD); Median	2.7(0.5);0.0	-2.7(0.7);-2.0
Differences Mean	-1.7(0.5);-1.5	-1.8(0.5);-1.0
p value	0.003*	0.001*
Depression		
n(%)	41(43)	31(41)
Mean (SD); Median	2.3(0.4);0.0	2.4(0.5);0.0
Differences Mean	-1.5(0.6);0.0	-1.3(0.6);0.0
p value	0.039	0.057
Sleep		
n(%)	77(80)	63(84)
Mean (SD); Median	4.3(0.4);5.0	4.5(0.6);5.0
Differences Mean	-2.2(0.4);0.0	-2.3(0.5);-2.0
p value	< 0.001*†	< 0.001*†
Symptom Burden		
Mean (SD); Median	42.9(2.3);42	42.5(2.6);40
Differences Mean	-6.9(1.6);-5.0	-5.3(1.9);-7.0
p value	**< 0.001***	0.008*

*Notes: Mean, Standard Deviation, Median; *p <0.05 (Statistically significant). Wilcoxon Test; † Reduction of 2 points in the symptoms or 20 points in the Symptoms Burden.*

Furthermore, it was observed for PCCT Group when analyzing the reduction of 2 points in the means of the differences of the symptoms and 20 points in the symptoms burden that in the first 24 hours, reduction in two symptoms, pain ($p < 0.001$) and nausea ($p < 0.001$); and, in 48 hours, occurred reduction ($p < 0.001$) in four symptoms: pain, nausea, dyspnea, and depression (Table 2).

In TC Group, the comparison with the symptoms at the moment of the admission and 24 hours after it showed reduction statistically significant ($p < 0,05$) in the scores of pain, tiredness, nausea, anxiety, drowsiness, appetite, dyspnea, depression, sleep and in the symptoms burden, as Table 3. The comparison with the symptoms at the moment of the admission and 48 hours after it showed reduction statistically significant ($p < 0,005$) in nausea, anxiety, drowsiness, appetite, dyspnea, sleep and in symptoms burden.

In addition, it was observed when analyzing the reduction of 2 points in the mean of the differences of the symptom and of 20

points in the symptoms burden that in the first 24 hours, reduction in pain, nausea and sleep; in 48 hours, occurred reduction in nausea and sleep (Table 3).

It was also observed that in 48 hours, the chance of a 2-point reduction in pain in patients in the PCCT group is about 2.34 times (p = 0.049) higher than in those in the TC group (Table 4). No other differences were observed.

Table 4 - Odds ratio (OR) of improvement of 2 points in symptoms and 20 points in symptom burden in the first 48 hours of the Palliative Care Consultation Team (PCCT) group compared to the Traditional Care Team (CT) group, by the Multiple Logistic Regression Model

Symptoms	0-24 hours		0-48 hours	
	OR (95% CI)	*p* value	OR (95% CI)	*p* value
Pain	1.42 (0.67-2.99)	0.360	2.34 (1.01-5.43)	0.049*†
Tiredness	0.84 (0.40-1.76)	0.645	0.97 (0.43-2.21)	0.948
Nausea	0.96 (0.37-2.51)	0.940	1.27 (0.42-3.81)	0.668
Anxiety	0.87 (0.40-1.90)	0.722	1.02 (0.41-2.51)	0.959
Drowsiness	0.72 (0.34-1.51)	0.382	0.95 (0.40-2.25)	0.909
Appetite	1.72 (0.75-3.91)	0.197	1.39 (0.59-3.29)	0.449
Wellbeing	1.68 (0.72-3.91)	0.222	1.52 (0.63-3.68)	0.350
Dyspnea	0.60 (0.20-1.80)	0.361	0.55 (0.16-1.92)	0.350
Depression	0.90 (0.33-2.51)	0.850	1.31 (0.39-4.42)	0.664
Sleep	0.78 (0.37-1.64)	0.510	0.55 (0.24-1.25)	0.146
Symptom Burden	0.63 (0.31-1.24)	0.174	0.93 (0.45-1.93)	0.845

*Notes: Multiple Regression adjusted by age; KPS, location and metastasis; *p <0.05 (Statistically significant). † Possibility in reducing 2 points in the intensity of the symptoms or 20 points in the burden of symptoms.*

DISCUSSION

The present study compared the effect of the PCCT group and the TC group in the control of symptoms of the patients hospitalized with advanced cancer through pragmatic study and verified moderate improvement in the evaluated outcomes.

A pragmatic study design was chosen due to the fragility and short life expectancy of patients in palliative care, what demands the minimum interference possible in the life routine and treatment of these patients. In addition, it allows to measure the effectiveness of the assistance was actually being provided. The limiting aspect is the lower control of covariables, because the study occurs in "real life".

The patients in the study had severe cases, about 30% died within 30 days of data collection, had multiple symptoms, ranging in intensity from moderate to severe, and a large proportion of them were in the emergency room. These facts, which require urgency to achieve wellbeing, justify the analysis of the effectiveness of symptom control in the first 48 hours of hospitalization. This is the focus of the present research still is an insufficiently studied aspect.

The number of patients enrolled in the study was significant (N = 290). Comparing the first evaluation (n = 290) with the third evaluation (n = 158), 54.5% it was observed loss of follow-up, which is common in research with palliative care patients (18-22), due to rapid clinical decline that interferes with patient vigor. But even so, the final number of patients was large (n = 158) and sufficient to compare outcomes between groups.

Three evaluations within 48 hours allowed accurate follow-up of the evolution of symptoms, and the option for a pragmatic study is appropriate to the fragility and short life expectancy of patients in palliative care, which requires the least possible interference with routine life and treatment of these patients. Moreover, pragmatic study takes place in "real life", represents how care is actually provided, and this brings the observed results very close to what really occurs. However, occurring in "real life" has limiting aspects, such as the difficulty or impossibility of controlling the variables.

The primary outcome was defined only equal or superior reduction of 2 points in the 0-10 scale was considered clinically excellent. It was only considered success when the improvement was of great magnitude as sick people have undeniable necessities of comfort in short term.

In the initial evaluation, the patients of TC and PCCT groups were similar in almost the totality of the analyzed variables, except in the "dyspnea" and "entrance in the emergency sector", that had been higher in TC group (Table 1). This similarity is very positive, as it shows that the patients started from equivalent situations, were treated by different teams (TC and PCCT) and came to some different results, although, in most cases, the results were similar. It was observed no differences in the outcomes of the initially different variables.

Comparing the symptoms and the symptom burden between the moment of hospitalization and the first 24 hours, a statistically significant improvement was observed in 91% of the symptoms in TC group and PCCT group. Comparing the moment of hospitalization with 48 hours after it, there was an improvement of 91% for the PCCT group and 64% for the TC group.

Such results seem quite encouraging and would indicate great success in symptom control in both groups if it were for the currently accepted understanding among researchers that statistically significant results may indicate small or almost negligible clinical improvement. Hence, the recommendation is to seek outcomes that may indicate important effects in the clinic, which was done in this research.

Corroborating the frailty in using only statistically significant results as a successful outcome, the analysis by a minimum reduction of 2 points in symptom scores showed a very different reality. Patients in the PCCT group within the first 24 hours had a reduction in two symptoms (pain and nausea); and within 48 hours, improvement was observed in four symptoms (pain, nausea, dyspnea, and depression). In patients of TC group, within the first 24 hours, there was a reduction in three symptoms (pain, nausea and sleep); and after 48 hours, in two (nausea and sleep impairment).

Completing the comparison between the two care team models, there was a two-fold greater odds of pain relief in the PCCT group than in the TC group, and this indicates the superiority of the PCCT group in pain management. For the other symptoms, no differences were observed.

Improvements greater than two points in symptom scores indicated short-term success (24 hours and 48 hours) and occurred in both groups, which is very desirable. After 48 hours of hospitalization, clinically relevant improvement was observed in 4 symptoms (PCCT) and 2 symptoms (TC), indicating some superiority of the PCCT group. Still, patients in the PCCT group had better pain control response in two measures: after 48 hours of hospitalization and greater chance of symptoms relief.

The good performance of the TC group can be credited to different aspects. Consultation-liaison team in any area of care have the role of advising consultants on the best treatment to be done. Thus, professionals learn the best conduct from the consultation-liaison team over time. In addition, institutions are part of a large health

teaching and research complex, where professionals are well qualified and there is constant continuing education through scientific meetings, case discussions, study organization, among other actions.

It was also observed stability in the improvement of some symptoms. The PCCT group showed improvement in pain and nausea within the first 24 hours, which was maintained after 48 hours. In the TC group, the same occurred with nausea and sleep. Transient improvements or rapid fluctuations in pain intensity and other symptoms are frequent and impair lasting wellbeing, so important to someone at the end of life [11-12]. To get around this issue, reevaluations should be frequent, communication between the team must be effective, and prescriptions, flexible, allowing rapid readjustment by the nurse to benefit patients [13].

Pain, nausea and sleep are known to be pharmacological controllable symptoms, due to the varied availability of effective and fast acting drugs, and, consistently, it was observed an improvement in these symptoms in both groups. Proper control of cancer pain should be simple and effective most of the time [14]. It is possible that the wide availability of effective and fast acting drugs were the main reasons for the improvements observed in both groups (PCCT and TC) for pain, nausea and sleep control. In symptoms such as tiredness, loss of appetite, depression, anxiety, loss of wellbeing and drowsiness, where interventions are less effective, available or known (and the improvement, longer), no clinically relevant relief was observed.

Proximity to death may increase difficulty in symptom control, as dyspnea, drowsiness, wellbeing, depression, anorexia, and tiredness are more frequent and intense in the last month of life.[11]. Retrospective cohort of 45.118 outpatients with cancer reported that these symptoms and symptom burden index worsened one week before death[12].

Another aspect to be considered in understanding the results is that a portion of the patients came from the emergency room(most of the TC group), which works with risk classification[15]. Thus, only those with severe pain received priority care code, and this may have influenced the speed of control of other symptoms (nausea, dyspnea, etc.).

A study with characteristics similar to the present study observed analagous results: developed in a large general hospital in England, which included 50 patients treated by the palliative care team and compared them to 50 patients treated by the traditional care team, showed that patients with palliative care team had a 1-point reduction in pain and anorexia score[16]. Similar to the present research, the study had a control group, and the study population was from the hospital, but the success criterion was less demanding (1-point improvement in symptom score), however the results were also modest.

There are studies that evaluated the evolution of symptoms of patients in palliative care attended by a specialized team and reported improvement. However, in these studies, the interval between evaluations was long (5 to 100 days) [17], the place used was the outpatient clinic [17-18], there was no control group [17-19], there was no clinically relevant improvement criterion and they were retrospective [18]. These characteristics weaken the rigor of the research and the strength of the results.

Possibly, the proposed success criterion (outcome) was demanding, because on a scale of 0-10, an improvement of at least 2 points was desired, and few studies adopted the same minimally relevant clinical reduction criterion [16-17] in a short period of time.

Symptom control in oncology is complex and seems to require several elements to be achieved, such as knowledge of patient profile, disease evolution, drug pharmacokinetics and pharmacodynamics, the impact of cancer treatment on symptoms, the influence of environmental and psychological factors on the course of the disease and symptoms and the close interaction between members of professional teams, among others. Also important for the proper control of symptoms are the existence of systematic evaluation (specific protocols, specific evaluation times and information flow) and symptom control protocols[14,20]. Consultation-liaison teams have limited access to many of these aspects, which may have contributed to the similarity in results between groups.

Study Limitations

The study has limitations such as the impossibility of randomization in the allocation of patients in the groups and the blinding of the evaluator. Non-blinding of the evaluator may elicit the effect of desirability, and non-randomization may result in differences in group composition. The blinding of the evaluator would be very difficult, as consulting the medical records needed for the evaluations would show which team was attending to which patient. Despite the absence of randomization, in the first evaluation the groups differed only by the place of hospitalization and dyspnea. There was a routine of care that the researcher wanted to test, so neither the allocation criteria in the groups nor the interventions proposed by the teams were standardized. Still, the number of follow-up losses in both groups was important and this is a limitation. However, this is common in palliative care patients due to the extremely fragile situation that sometimes precludes participation in the research, and the occurrence of death [20]. Other studies involving patients in palliative care have shown similar challenges [21-22].

Study Contributions

There are important contributions to the present research, such as the fact that it is a pragmatic essay and occurs in a real environment of clinical practice; the use of clinically relevant two-point reduction criteria within 48 hours of hospital admission; the comparison of outcomes between inter-consultative teams in palliative care and non-specialized teams; and demonstrating the difficulty of adequate and rapid symptom control, except pain, among cancer patients in both groups.

CONCLUSION

The hypothesis that patients treated by the Palliative Care Consultation Team (PCCT) would have better symptom control was partially confirmed. The PCCT Group, within the first 24 hours, met the success criteria for pain and nausea; and within 48 hours for pain, nausea, dyspnea, and depression. TC Group, within the first 24 hours, met the success criteria for pain and nausea; and within 48 hours for nausea and sleep impairment. Multiple Logistic Regression showed that the PCCT Group had a 2.34 times higher odds of pain relief compared to the TC Group. It is possible that the education inherent in every consultation has

improved the performance of traditional teams in the management of symptoms in palliative care, which is also very desirable.

The clinical repercussions of the present study are significant: it demonstrated the difficulty in relieving the symptoms of cancer patients in a quickly and clinically relevant way in palliative care, and the need to improve care for these patients. New investigations may perhaps answer under what conditions and care units, patients would gain better control of their suffering.

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