

Prevalence of malnutrition and pain in patients admitted by the screening service of an oncologic hospital*

Prevalência de desnutrição e dor em pacientes admitidos pelo serviço de triagem em hospital oncológico

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ABSTRACT

BACKGROUND AND OBJECTIVES: Pain is a symptom influencing several aspects of daily life. This study aimed at early identifying pain in cancer patients, at evaluating how this symptom has interfered with food ingestion and its impact on patients' nutritional status.

METHODS: This was a prospective study including 222 cancer patients referred to the screening service of a hospital. Participants have answered a questionnaire with questions about food ingestion, presence of current pain and pain in the last month, type of pain, pain-related sleep disorders and weight loss in the last month.

RESULTS: Weight loss in the last month was referred by 48.6% of the elderly and 31.2% of adults. There has been food ingestion decrease in 38.5% of the elderly and 31.9% of adults. Pain-related sleep disorders were reported by 35% of patients. Most prevalent were severe and moderate pain (40% each). Among participants referring pain and weight loss, most have decreased food ingestion. When relating food ingestion decrease and presence of pain, the result was 74% of individuals, showing a relationship between pain and decreased food ingestion ($p=0.00$).

CONCLUSION: Pain is a symptom interfering with food ingestion and, if not treated, may lead to decreased food ingestion, weight loss and malnutrition, in addition to sleep disorders and incapacity to perform daily activities

Keywords: Cancer, Malnutrition, Pain, Sleep.

RESUMO

JUSTIFICATIVA E OBJETIVOS: A dor é um dos sintomas que influenciam em diversos aspectos da vida diária do paciente. O objetivo deste estudo foi identificar precocemente a presença de dor em pacientes com câncer, avaliar de que forma tal sintoma interferiu na ingestão alimentar e o impacto que exerceu sobre o estado nutricional do paciente.

MÉTODOS: Estudo prospectivo, incluindo 222 pacientes oncológicos, encaminhados ao serviço de triagem de um hospital. Os participantes responderam a um questionário contendo perguntas sobre ingestão alimentar, presença de dor atual e no último mês, tipo de dor apresentada, distúrbio do sono associado à dor e perda de peso no último mês.

RESULTADOS: A perda ponderal no último mês foi relatada por 48,6% dos idosos e 31,2% dos adultos. Houve redução no consumo de alimentos em 38,5% dos idosos e 31,9% dos adultos. Distúrbio do sono associado à dor foi relatado por 35% dos pacientes. As mais prevalentes foram dor intensa e moderada com 40% cada. Entre os participantes que relataram dor e perda ponderal, a maioria reduziu a ingestão alimentar. Quando relacionadas à diminuição da ingestão alimentar e presença de dor, obteve-se 74% dos indivíduos, mostrando que existe uma relação entre dor e redução no consumo alimentar ($p=0,00$).

CONCLUSÃO: A dor é um sintoma que interfere na ingestão alimentar, podendo levar à redução no consumo de alimentos, perda ponderal e desnutrição, além de distúrbios do sono e incapacidade do paciente para realizar atividades diárias quando não tratada.

Descritores: Dor, Desnutrição, Neoplasia, Sono.

INTRODUCTION

Pain is a major symptom leading people to look for medical assistance because it restricts their lives influencing sleep, mobility, food intake and daily live activities¹.

Chronic pain persisting for three months or longer may be induced by undertreated benign disease or by sequelae of degenerative diseases. However, mixed chronic pain is highly suggestive of expansion processes common to tumors. There is a nociceptive component characterized by musculoskeletal and/or visceral tissue injury and a neuropathic component

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as consequence of peripheral nerves compression or injury². During pain evaluation, it is important to know whether changes in room temperature or colder days worsen pain. Some studies, although difficult to measure, try to evaluate the influence of weather changes on pain of osteoarthritis patients. Other studies have evaluated if weather conditions could trigger, for instance, migraine^{3,4}.

Pain may interfere with food intake. Adult patients with malignant tumors in general have nutritional status impairment, with weight loss above 10% in up to 30% of cases⁵.

Weight loss in cancer patients has negative impact because it changes self-image and may lead to malnutrition^{6,7}. Higher morbidity and mortality indices are associated to malnourished patients, as well as decreased response and tolerance to specific therapy, higher costs and poorer quality of life^{7,8}.

In some cases, weight loss in cancer patients is result of low food intake due to pain, which affects 20 to 50% of patients in the beginning of the therapy. People with poorly controlled pain do not eat due to the discomfort which food intake may cause or exacerbate. There is, then, lower food intake favoring weight loss, which may also be followed by decreased functional capacity. Pain control allows patients to enjoy basic activities, such as eating, without this attitude becoming a distress or causing discomfort¹.

This study aimed at early identifying pain in patients referred to the screening service of a cancer hospital, in addition to evaluating how such symptom has interfered with food intake and its impact on patients' nutritional status.

METHODS

This is a clinical, transversal, prospective study with patients referred to the screening service of a cancer hospital. Patients were new cases in the institution and were not under any type of cancer treatment (radiotherapy, chemotherapy or surgery) which could interfere with food intake. Data were collected from March to August 2012. All patients have accepted to participate in the study by signing the Free and Informed Consent Term (FICT) and were referred by the Public Health System (SUS).

Participated in the study cancer patients admitted by the screening service. Inclusion criteria were patients with malignant tumors, seen by the screening service, considered new cases in the institution, aged 18 years or above. Exclusion criteria were patients already being treated for a different malignant tumor, those who could not be submitted to weight and height evaluation or under enteral nutritional therapy via catheter.

Participants have answered a questionnaire with questions about food intake in the last month, presence of current pain and in last month, sleep disorder associated to pain in the last month, type of pain (nociceptive, neuropathic, mixed) and weight loss in the last month. Current weight, usual weight, height and body mass index (BMI) were also evaluated, as well as the classification of each patient according to their Performance Status (PS) using the Zubrod scale (ECOG –

Eastern Cooperative Oncology Group) – PS0 – normal activity PS1 – symptoms of the disease, but walks and has normal daily life, PS2 – out of bed more than 50% of time, PS3 – in bed more than 50% of time requiring more intensive care, PS4 – bedridden¹.

Nutritional status was evaluated by a nutritionist according to patients' age through BMI scores. Adults were classified according to World Health Organization table (WHO, 1995 and 1997) and for the elderly, aged 60 years or above, BMI cutoff points proposed by Lipschitz were used⁹.

Pain, when reported, was quantified according to the visual analog scale (VAS), which uses scores from zero to 10 (zero = no pain and 10 = worst pain ever felt), and may be classified as mild (1 to 3), moderate (4 to 7) or severe pain (8 to 10)¹.

Daily temperature of the city of Curitiba was obtained through data recorded by the Weather Institute of Paraná (SIMEPAR) aiming at comparing it to pain reported by patients in the interview day.

Data were recorded in Microsoft Excel[®] for statistical analysis and for posterior descriptive analysis of collected variables and data crossing using Chi-square test with significance level equal to or below 0.05.

This study was approved by the Ethics and Research Committee of the Hospital under protocol 2134/2011.

RESULTS

Studied population was made up of 222 patients, being 49% (109) elderly and 51% (113) adults. Most frequent tumors among the elderly were prostate (18.3%), skin (13.8%), breast (12.8%) and head and neck (8.3%). Among adults, breast cancer was the most prevalent (26.5%), followed by skin (15.9%), head and neck (14.2%), prostate, uterus and thyroid with 8% each.

According to nutritional status classification (Table 1) there has been mild difference between the number of eutrophic and overweight, with 33.6 and 31.9%, respectively. Total malnourished adults were 7.1% and total obese was 27.4%. Overweight was more frequent among the elderly (42.2%), followed by euthropic (41.3%) and malnourished (16.5%). Weight loss in the last month was reported by 48.6% of the elderly and 31.2% of adults.

With regard to food intake in the last month, 38.5% of the elderly and 31.9% of adults have reported lower consumption. Only 7.3% of the elderly and 9.7% of adults have referred increased food intake in the same period.

According to Zubrod scale, most elderly and adults were classified as PS0 (72.5 and 77%, respectively).

In the evaluation of pain reported by elderly and adults (Table 2) results were similar: 32.7% (37) of adults and 37.6% (41) of the elderly have reported pain in the interview day. With regard to last month, 65.5 and 64.2% of adult and elderly patients have reported this pain. Moderate pain has prevailed among adults and the elderly in the research day, with 63 and 47%. In the last month, severe and moderate pain (40% each) were more prevalent among the elderly.

Table 1. Nutritional status according to patients' body mass index and age

	Adults % (n)	Elderly % (n)
Malnutrition III	0.9 (1)	-
Malnutrition II	1.8 (2)	-
Malnutrition I	4.4 (5)	-
Malnutrition	-	16.5 (18)
Eutrophia	33.6 (38)	41.3 (45)
Overweight	31.9 (36)	42.2 (46)
Obesity I	16.8 (19)	-
Obesity II	6.2 (7)	-
Obesity III	4.4 (5)	-

Table 2. Pain quantification in the interview day and in the last month according to adult and elderly patients' report

	Pain at interview		Pain in last month	
	Adults (n=37)	Elderly (n=41)	Adults (n=74)	Elderly (n=70)
Mild pain	5% (2)	28% (12)	4% (3)	20% (14)
Moderate pain	63% (23)	47% (19)	55% (41)	40% (28)
Severe pain	32% (12)	25% (10)	41% (30)	40% (28)

Mean maximum and minimum temperatures recorded every data collection day were 25.3° and 12.7° C, with mean of 19° C. From all patients, 35% (78) have reported pain in the interview day and 64% (144) have reported pain in the last month.

Nociceptive pain was reported by 33% of the elderly and 36.3% of adults, neuropathic pain by 17.4% of the elderly and 10.6% of adults and mixed pain by 14.7% of the elderly and 19.5% of adults.

Pain-related sleep disorder in the last month was reported by 35% of patients. In our study, there has been predominance of severe pain among patients with sleep disorders and of moderate pain among those without this disorder.

Considering all patients (Table 4) and relating weight loss (WL) to presence of pain in the last month, there have been a total of 64 individuals. There were 78 patients with pain in the last month, however without weight loss. Among those reporting pain and WL, most (38) had decreased food intake and among those who have not lost weight, most have maintained normal food intake.

Table 3. Pain and severity in the last month associated to sleep disorders

		Pain in last month			
		No pain	Mild	Moderate	Severe
Pain-related sleep disorder in the last month	Yes	4% (3)	12% (2)	47% (31)	79% (44)
	No	96% (80)	88% (15)	53% (35)	21% (12)
	Total	83	17	66	56

Table 4. Pain in the last month associated to weight loss and food intake

		Weight loss (Yes)	Weight loss (No)
		Decreased	59.4% (38)
Food intake	Normal	39.0% (25)	56.4% (44)
	Increased	1.6% (1)	19.2% (15)
Total		64	78

DISCUSSION

Pain is the symptom causing the highest distress to patients and relatives because it influences the control of other symptoms such as insomnia, depression, anxiety and anorexia². It is estimated that 35 to 45% of cancer patients have pain in an early stage of the disease or at diagnosis, increasing to 70% for those with advanced disease¹⁰. In a study with 140 elderly patients submitted to chemotherapy, pain was reported by 51.4%¹¹. A different study with 50 patients under palliative care has observed that 40% had moderate pain at first consultation and 34% have complained of appetite loss¹². In our study, we have identified 64% of patients with pain in the last month and 35% with pain in the moment of the interview.

Data found show that there is no direct relationship between pain and weight loss, however among those with weight loss, 60% have reported decreased food intake. When decreased food intake was related to pain we have obtained 74% of patients, showing that there is a relationship between pain and food intake decrease (p=0.00).

Severe pain in the last month was reported by 56 patients and 33% of them had decreased food intake. Such reduction, associated to cancer-induced metabolic changes, may lead to weight loss if caloric needs are not daily met. Nutritional care should start early, aiming at preventing malnutrition or minimizing its effects^{13,14}.

Our study has found a higher number of patients with severe pain and associated sleep disorder (35%), as compared to other pain intensities, that is, the more severe the pain, the higher the interference with sleep, preventing adequate rest. Non-relieved pain generates anxiety and depressive symptoms, impairs daily and social activities and sleep. A study¹¹ with 140 elderly patients has shown that 62.9% had poor quality sleep being observed association between sleep quality and presence of pain (p=0.00).

With regard to type of pain and sleep disorder, 54% of patients had pain-induced sleep disorder, with prevalence of nociceptive (41%) and mixed (33%) pain. A study¹⁵ with 118 cancer patients under palliative care has found pain in 69% of patients with predominance of neuropathic (44%) and nociceptive (41%) pain.

Nutritional status has shown that most adults were eutrophic and with overweight, and the elderly with overweight and eutrophy. Considering these groups of patients, 18% of adults and 34% of the elderly have reported weight loss in the last

month. Elderly are more susceptible to weight changes and food intake due to monotony of meals, chewing difficulties or lack of caregivers to prepare meals, factors which are related to lower food intake, reflecting in weight loss which may become severe, even in cases where BMI is within normality. Body tissues depletion, especially muscle mass, promotes asthenia and worsens quality of life, impairing cancer treatment beginning and continuity⁵.

In the comparison of presence of pain and temperature, there has been no statistical evidence of association, considering mean temperature variation of 12.6° C and mean minimum temperature of 12.1° C. In a study with 60 migraine patients followed up for three months, there has been increased incidence of crises in days with higher temperatures (mean above 18.4° C) and lower relative air pressure. Days with low air humidity and lower relative atmospheric pressure have preceded those when patients had higher frequency of migraine crises³. Our study has not found correlation between lower temperatures in colder days and the presence of pain; however, there has been relationship between pain and decreased food intake. Further studies are needed to evaluate the presence of pain in days with lower temperatures than those evaluated by our study, to identify possible relationships between temperature and pain, with consequent decrease in food intake.

CONCLUSION

Pain interferes with food intake and may lead to lower food intake, weight loss and malnutrition, in addition to sleep disorders and incapacity when undertreated. Early pain identi-

fication allows adequate handling and management, helping patients to maintain continuity of their daily and social activities with less distress.

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