Rev Dor. São Paulo, 2017 apr-jun;18(2):156-60

ORIGINAL ARTICLE

Pain evaluation in patients under chemotherapy: application of McGill pain Questionnaire

Avaliação da dor em pacientes em tratamento quimioterápico: utilização do questionário McGill

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DOI 10.5935/1806-0013.20170031

ABSTRACT

BACKGROUND AND OBJECTIVES: Cancer pain is common in patients under chemotherapy and there is the need for a multiprofessional therapeutic plan, especially for nursing assistance, in the attempt to control it. This study aimed at evaluating qualitative pain characteristics of cancer patients under chemotherapy, by means of the McGill Pain Questionnaire.
METHODS: This is a quantitative, descriptive and cross-sectional study made up of 23 participants under chemotherapy with cancer pain. Data were collected by means of McGill Pain Questionnaire in a High Complexity Assistance Unit of a city of Minas Gerais.
RESULTS: Most participants were females, Caucasian, with basic education, affected by more advanced breast cancer. Burning and sore were the most prevalent descriptors in sensory pain category. Among affective descriptors, tiresome and sickening were the most prevalent. Troublesome pain has prevailed as evaluative characteristic and for miscellaneous descriptors, most prevalent were radiating and nauseating.
CONCLUSION: Scales to evaluate qualitative pain aspects favor nursing assistance, providing tailored assistance aimed at the complaint of each patient. Their competences allow the use of this tool aiming at increasingly qualifying its practice, thus improving quality of life of patients or, at least, decreasing their distress.

Keywords: Cancer, Evaluation in Nursing, Nursing, Pain, Pain measurement.

RESUMO

JUSTIFICATIVA E OBJETIVOS: A dor oncológica é uma queixa comum em pacientes em quimioterapia e há a necessidade da elaboração de um plano terapêutico multiprofissional, em especial para a assistência do enfermeiro, na tentativa de controlá-la. Este estudo teve como objetivo analisar as características qualitativas da dor de pessoas com câncer em tratamento quimioterápico, por meio do Questionário de Dor de McGill.
MÉTODOS: Estudo quantitativo, descritivo, transversal, composto por 23 participantes em tratamento quimioterápico com queixa de dor oncológica. A coleta de dados ocorreu por meio da aplicação do Questionário de Dor de McGill em uma Unidade de Assistência de Alta Complexidade de um município mineiro.
RESULTADOS: A maioria dos participantes era mulheres, brancas, com ensino fundamental, acometidas pela neoplasia da mama em estágios mais avançados. Os descritores queimação e dolorida foram os mais prevalentes na categoria sensorial da dor. Entre os descritores afetivos, cansativa e enjoada foram os mais encontrados. Dor que incomoda prevaleceu como característica avaliativa do sintoma e para os descritores miscelânea, destacaram-se dor que irradia e dá náusea.
CONCLUSÃO: O uso de escalas que avaliam os aspectos qualitativos da dor favorece o atendimento do enfermeiro, o que proporciona que a assistência seja individualizada, voltada para a queixa de cada paciente. Suas competências permitem a utilização desse instrumento com o objetivo de qualificar cada vez mais sua prática e, desse modo, melhorar a qualidade de vida dos pacientes ou, pelo menos, diminuir seu sofrimento.

Descritores: Avaliação em Enfermagem, Dor, Enfermagem, Mensuração da dor, Neoplasias.

INTRODUCTION

Cases of cancer in Brazil have been increasing in recent years, becoming a serious public health problem, mainly, due to the deficient structure of health services to meet this demand. This growth makes the professionals of the area deal with some alterations presented by patients during the treatment, being pain one of the symptoms most frequently reported[1,2].

Cancer pain is a complex symptom, where usually the patient experiences different types of pain, in varied intervals and intensity, with simultaneous sensations of acute and chronic pain and potential reduction in quality of life[3]. Many times, the suffering caused by this symptom makes patients fear it more than the disease itself[4].

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Submitted in December 15, 2016.
Accepted for publication in April 17, 2017.
Conflict of interests: none – Sponsoring sources: Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES).

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Cancer pain has multifaceted aspects, which takes into consideration not only the conditions of the disease but also the treatment, psycho-emotional and socio-economic factors, the habits of life and the experiences of each patient, becoming a challenge for the healthcare team[5].

Even in an attempt to control pain, its prevalence is high, and approximately 55% of patients experience it during cancer treatment[2]. This has led to greater attention to this symptom, especially in recent years. Despite the various methods available to manage it, the relief of pain, however, is insufficient, not reaching acceptable levels, which shows that its control is still flawed and the symptom is recurrent[6].

In this context, the assessment of cancer pain must be a priority action, involving all the multi-professional team for the qualitative measurement of this symptom, since this action helps in the choice of treatment and more complex and assertive decision making[7].

The assessment and the qualitative perception of pain in cancer patients, even having little attention in recent times[8], should be encouraged, mainly because of the variation in pain intensity, its etiology, and location[9].

In practice, pain complaint is frequent, and health professionals must be careful in its evaluation, always on the basis of scientific evidence. This approach will allow all care to be planned and provide the adequate relief of this symptom. However, professionals use only quantitative assessment methods of the pain, as the verbal numerical rating scale (VNRS), neglecting qualitative methods such as the McGill Questionnaire (MPQ), treating only the unidimensional aspects of pain during care[10].

It is pointed out that the nurse, the professional of the multidisciplinary team who is in close contact with the patient, should be trained to use multidimensional pain measurement tools for the development of the most appropriate therapeutic plan. Thus, this study aimed to analyze the qualitative characteristics of pain in cancer patients undergoing chemotherapy treatment.

METHODS

Quantitative, descriptive, cross-section study carried out from December 2015 to May 2016. The convenience sample was based on the dynamics of the healthcare service and on the characteristics of the patients in that service. Therefore, 23 patients with malignancy who received chemotherapy treatment at the High-complexity Care Unit (UNACON) of Casa de Caridade Nossa Senhora do Perpétuo Socorro - Santa Casa de Alfenas, a municipality located to the South of Minas Gerais participated in the study. The inclusion criteria were: be in chemotherapy treatment and mentally oriented; have pain; being followed by the hospital oncology sector and be 18 years old or more. Those with pain in the terminal stage of the disease were excluded.

MPQ was applied for the qualitative assessment of pain. This is a multidimensional tool that was created in 1975 by Melzack, at McGill University in Canada, and translated to Portuguese and validated in 1996. The tool evaluates sensorial, emotional and painful phenomenon qualities being one of the world's most used questionnaires in practice and in qualitative assessment of cancer[11,12].

MPQ is composed of four groups of descriptors (sensorial, emotional, evaluative and miscellaneous), in a total of 78 words. These four groups are organized into 20 subgroups according to the pain sensation. Subgroups from 1 to 10 refer to the sensorial characteristic of pain, subgroups from 11 to 15 to emotional characteristics of the pain symptom, subgroup 16 refers to the evaluative dimension of pain, and the other subgroups (17 to 20) comprise of miscellaneous descriptors. Each of these subgroups contemplates 2 to 6 similar descriptors, but differing in magnitude[11].

In this study, the tool was applied verbally by a trained surveyor and participants were guided to choose the word that better represented their pain, with the possibility of choosing only one word or none for each subgroup. In addition to responding the questionnaire, participants were characterized by means of an instrument elaborated by the surveyor who assessed the socio-economic variables and those related to the diagnosis and treatment. The stage of the disease, the chemotherapy protocol, and the medical records of the participants were analyzed to confirm the type of cancer,

This study was approved by the Research Ethics Committee of UNIFAL-MG, under the opinion number 1.330.960 and Certificate of Submission to the Ethics Assessment (CAAE) number 49341715.0.0000.5142 and with the signature of the Free and Informed Consent Term (FICT).

Statistical analysis

After collection, the data was stored and tabulated in an electronic spreadsheet and then analyzed by the Statistical Package for Social Sciences (SPSS), version 20.0 and used descriptive statistics (average, standard deviation), frequency (f) and percentages (%) with the purpose of delineating the general characteristics found.

RESULTS

Participants presented the following characteristics: 78.3% (n=18) were female and the average age was 55±9.3 years; 73.9% (n=17) of these self-declared white and 56.5% (n=13) had primary education (Table 1).

Table 1. Characterization of participants

Variables		Frequencies	%
Gender	Female	18	78.3
	Male	5	21.7
Self-declared color	White	17	73.9
	Pardo	5	21.7
	Yellow	1	4.4
Education	No education	1	4.4
	Primary education	13	56.5
	Secondary education	6	26.1
	Higher education	3	13.0

When asked about the clinical data of the disease, 52% (n=12) of the participants said they had breast neoplasm. 82.6% (n=19) had the disease in more advanced stages (stages III and IV) and 47.8% (n=11) underwent weekly chemotherapy (Table 2).

After applying the MPQ we saw that of the 78 cited descriptors, 50 have been reported by the participants, of which 26 were sensorial qualities of pain, 10 were emotional, four represented the evaluative descriptors and 10 miscellaneous descriptors. Adding all the descriptors reported by the 23 participants, it was found that the sensorial descriptors were found 104 times (mean±SD: 4.5±2.8). Emotional descriptors appeared 40 times (1.7±1.6). Evaluative descriptors of pain were cited 19 times (0.8±0.3), while miscellaneous descriptors appeared 25 times (1±1.2). Therefore, 188 descriptors reported by participants were evaluated (8.1±5.3).

When analyzing the sensorial characteristics of the pain symptom, the *burning* descriptor was most mentioned, followed by *sore*, *jumping,* and *tugging*, as shown in table 3.

Concerning the emotional characteristics of pain, *tiring* (20%), *sickening* (20%) and *frightful* (15%) were reported more times by participants (Table 4).

The descriptor *troublesome* was the most reported to qualify pain in relation to the evaluative characteristic. The descriptors, *annoying* (n=3), *intense* (n=3) and *unbearable* (n=3) were also found in this group (Table 5).

It was also observed that when asked about the descriptors of the miscellaneous group, participants mentioned a *radiating* (20%) and *nauseating* (20%) pain as those that better represent the quality of their pain (Table 6).

Table 2. Characteristics related to clinical data of the disease

Variables		Frequencies	%
Types of cancer	Breast	12	52.0
	Lung	3	13.0
	Uterus	2	8.7
	Intestine	2	8.7
	Pancreas	1	4.4
	Melanoma	1	4.4
	Ovaries	1	4.4
	Liver	1	4.4
Cancer Stage	II	4	17.4
	III	10	43.5
	IV	9	39.1
Chemotherapy protocol	Weekly	11	47.8
	Fortnightly	2	8.7
	21-day interval	6	26.1
	28-day interval	4	17.4

Table 3. Sensorial descriptors of pain reported by the participants of the study

Sensorial quality of pain	Frequencies	%
Burning	14	13.46
Sore	11	10.58
Jumping	8	7.69
Tugging	8	7.69
Throbbing	7	6.73
Pricking	7	6.73
Pulsing	6	5.77
Sharp	4	3.85
Pressing	4	3.85
Tingling	4	3.85
Taut	4	3.85
Cramping, wrenching, aching, tender*	12▪	11.53
Flashing, lacerating, gnawing, stinging**	8▪	7.69
Quivering, cutting, itchy, smarting, dull, hurting, splitting***	7▪	6.73
Total	104	100

*Reported by three participants. **Reported by two participants. ***Reported by one participant. ▪Sum of descriptors.

Table 4. Emotional descriptors of pain reported by the participants of the study

Emotional quality of pain	Frequencies	%
Tiring	8	20
Sickening	8	20
Frightful	6	15
Punishing grueling, fearful, blinding*	12▪	30
Exhausting, cruel, wretched**	6▪	15
Total	40	100

*Reported by three participants; **Reported by two participants; ▪Sum of the descriptors.

Table 5. Evaluative descriptors of pain symptom reported by the participants of the study

Evaluative quality of pain	Frequencies	%
Troublesome	10	52.63
Annoying	3	15.79
Intense	3	15.79
Unbearable	3	15.79
Total	19	100

Table 6. The miscellaneous group descriptors reported by the participants of the study

Miscellaneous descriptors of pain	Frequencies	%
Radiating	5	20
Nauseating	5	20
Numb	3	12
Nagging	3	12
Spreading. drawing, sharp*	6▪	24
Penetrating, squeezing, tearing**	3▪	12
Total	25	100

*Reported by two participants; **Reported by one participant; ▪Sum of the descriptors.

All the 20 subcategories were cited by the participants. Of the 28 descriptors that were not reported, 16 belonged to the following subgroups: sensorial *flickering*, *beating, pounding*, *shooting*, *boring*, *drilling*, *stabbing*, *lancinating*, *pinching*, *crushing*, *pulling*, *hot*, *scalding*, *searing*, *heavy*, *rasping*). Four related to the emotional qualities of the pain symptom: *suffocating*, *terrifying*, *vicious*, *killing*), one describes the evaluative characteristic of pain (*miserable*) and seven were described in the miscellaneous group (*piercing*, *tight*, *cold*, *freezing*, *agonizing*, *dreadful*, *torturing*).

DISCUSSION

In the present study, cancer was most reported by white people (73.9%) and females (78.3%), who had, in general, more than seven years of education and the average age of 55 years. These data are similar to some general characteristics of the population profile in the region and the findings of other studies, only differing in the educational level that was higher[8,13]. Moreover, the age is in accordance with 77% of the population that has a diagnosis of cancer in this age bracket[14].

It is important to point out that the disparity in the socioeconomic characteristics of the population directly influence the vulnerability of the cancer diagnosis and the painful experience since it changes the way people look after care at healthcare centers and the acceptance of pain as part of the disease process[8].

The type of cancer most reported in this study was breast cancer (52%). This data is consistent with the epidemiology of cancer in Brazil, where breast cancer is the higher incidence in the female population[1].

When analyzing the data on cancer stage, it was noticed that 19 participants (82.6%) had the disease in more advanced stages (stages III and IV). This variable is crucial to know the proportions of the disease[1]. The delay in the diagnosis and in the beginning of the treatment can cause a tumor progression and more advanced stages, requiring more aggressive treatments, which generates bad prognostic and reduction in patient's survival[15].

In the context of more advanced stages, the pain symptom can be more prevalent since there is the possibility of other body structures be affected during the treatment as a result of surgery, chemotherapy or radiation therapy and the presence of metastases, which stresses the importance of evaluating this symptom qualitatively.

The antineoplastic protocols used during the treatment have varied purposes, such as cure and supportive care, and the outcome is better when applied in high doses and smaller intervals[16]. With that, 47.8% (n=11) of participants were in the weekly chemotherapy protocol, that is with short intervals between sessions in order to reduce the risk of worsening. However, this data can also be justified by the treatment of breast cancer, which involved most of the sample and, usually, includes paclitaxel in its treatment routine - an antineoplastic used in treatments of this kind of neoplasia, with weekly administration[16].

Regarding the qualitative assessment of pain, studies[12,17-19] show that there is a variation in the words used by patients to describe how they perceive their pain. Some authors[18,19] apply the MPQ dividing it into three categories: sensorial, evaluative and emotional, and thus there were variations in the interpretations of these categories. Moreover, when analyzing such studies, we notice that the size of the samples varied between 20[12,18], 75[17] and 159[19] participants, being the number of participants in the present study (23) in accordance with some studies[12,18].

When applying the MPQ, the words *burning* and *sore*, present in the sensorial category, were cited by 14 (60.9%) and 11 (47.8%) participants in this study, respectively, being the ones that presented the highest percentages. Silva et al.[19] also found in their study a great number of patients (75%) who selected the word *burning*. However, the word *sore* was not reported. In Costa and Chaves' study[17], only 30.76% described *burning,* and 34.62% characterized their pain as *sore*.

The description of *troublesome* pain (n=10), present in the evaluative category, was the third most found in this study (43.5%), in alignment with other studies[12,17-19]. Followed by *jumping* (34.8%) and *tugging* (34.8%), in the sensorial group; *tiring* (34.8%), *sickening* (34.8%) and *frightful* (26.1%), in the emotional group; *annoying* (13%), *intense* (13%) and *unbearable* (13%), in the evaluative category; and *radiating* (21.7%) and *nausea* (21.7%) in the miscellaneous category, were the most cited in this study.

In the study carried out by Barbosa et al.[12], *jumping* (11.5%) and *tugging* (8.6%) were the most reported sensorial characteristics and *intense* (27.8%) was among the most prevalent in evaluative. *Jumping* (65.38%) was also among the most mentioned words in another study[17], as well as *sickening* (76.92%) and *tiring* (73.07%). The descriptors *radiating*, *tugging*, *sickening*, *annoying* and *tiring* were the most prevalent in their respective categories in other studies[18,19].

In this study, the *throbbing* (30.4%) and *pricking* (30.4%) descriptors, that fall in the sensorial group, were cited seven times each, being representative also in other studies[12,18].

One of the most prevalent descriptors in this study, *nauseating*, cited by 21.7% participants, was reported by men and women. This fact did not occur in Costa and Chaves study[17], where men did not cite this descriptor even once. Moreover, several words not cited in this study, such as *flickering*, *beating*, *pounding*, *shooting*, *lancinating*, *gnawing*, *scalding*, among others, match with other studies where these words have not been found[12,17].

In this context, facing the variety of qualitative characteristics expressed by the cancer patient to describe his/her pain, the multidimensional strategy approach provides a personalized care using methods that assess pain, both in the quantitative and qualitative terms. The treatment and the evaluation of these patients should not be an incidental action. The care given to the cancer patient should be systematic as a way to ensure the treatment success, especially because it is a subjective symptom and with multiple associated factors that can vary throughout the treatment process[9].

CONCLUSION

The use of the MPQ is of great value to know the qualitative aspects of pain, which allows the nurse to provide an individualized treatment and improve the quality of care reported by patients.

ACKNOWLEDGMENTS

The Coordination for Improvement of High Education Personnel (CAPES) for funding this study.

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