EVALUATION OF THE QUALITY OF LIFE IN PATIENTS WITH COLORECTAL CANCER SUBMITTED TO PALLIATIVE CHEMOTHERAPY

EVALUACIÓN DE LA CALIDAD DE VIDA EN PACIENTES CON CÁNCER COLORECTAL SUBMETIDOS A QUIMIOTERAPIA PALIATIVA

ABSTRACT
Objective: to evaluate the quality of life (QL) of patients with colorectal cancer undergoing palliative chemotherapy. Methodology: cross-sectional study, descriptive-correlational quantitative approach, performed on 25 patients with colorectal cancer, stage IV, palliative chemotherapy, outpatient in ULSBA’s Oncology Unit, approved by the Ethics Committee of the respective unit. We used the “European Organization for Research and Treatment of Cancer Quality of Life QL functional” (EORTC QLQ-C30) version 3.0, and the “European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Colorectal Cancer Module” (EORTC QLQ-CR38). Data were analyzed by SPSS program version 16.0, using descriptive statistics and bivariate analysis. Results: 72% of the patients were male and 28% female, average age of 68.6 years. The lowest average scores on functional scales are 65.33 for daily activities and higher average scores on the scales of 41.33 symptoms are related to fatigue. There was a positive association between physical function, emotional and social development with the perception of global health status /QL and a negative association between the perception of global health status /QL with gastrointestinal symptoms. Conclusions: the perception of QL indicates a multiplicity of factors involved. Regular studies of quality of life assessment can help to identify the needs of patients and provide care professionals of welfare and promoting a quality of life as good as possible, by placing as a secondary plan prolonging life at all means.

RESUMO
Objetivo: avaliar a qualidade de vida (QV) de pacientes com câncer colorretal, submetidos a quimioterapia paliativa. Metodologia: estudo transversal, descritivo-correlacional de abordagem quantitativa, realizado a 25 pacientes com câncer colorretal, estádio IV, submetidos a quimioterapia paliativa, em regime ambulatorial, na Unidade de Oncologia da ULSBA, aprovado pela Comissão de Ética da respectiva unidade. Utilizou-se o “European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Colorectal Cancer Module” (EORTC QLQ-CR38). Os dados foram analisados no programa SPSS versão 16.0, através de estatística descritiva e bivariada. Resultados: dos pacientes estudados 72% são do sexo masculino e 28% do sexo feminino, idade média de 68,6 anos. Os scores médios mais baixos nas escalas funcionais são 65,33 relativos às actividades diárias e os scores médios mais altos nas escalas de sintomas são 41,33 referentes à fadiga. Verificou-se associação positiva entre as funções física, emocional e social com a percepção do estado global de saúde/QV e uma associação negativa entre a percepção do estado global de saúde/QV com os sintomas gastrointestinais. Conclusões: a percepção da QV aponta para uma multiplicidade de factores. Estudos regulares de avaliação de qualidade de vida podem contribuir para identificar as necessidades dos pacientes e oferecer cuidados promotores do bem-estar e da melhor qualidade de vida possível, colocando para plano secundário o prolongamento da vida a todo o custo.

RESUMEN
Objetivo: evaluar la calidad de vida (QV) de los pacientes con cáncer colorrectal en tratamiento quimioterapéutico paliativo. Metodología: estudio transversal, descriptivo correlacional y cuantitativo. Realizado en 25 pacientes con cáncer colorrectal en estadio IV, en tratamiento con quimioterapia paliativa, en régimen ambulatorio, en las consultas de la Unidad de Oncología de la ULSBA, aprobado por el Comité de Ética de la unidad respectiva. Se utilizó el “European Organization for Research and Treatment of Cancer Quality of Life Questionnaire” (EORTC QLQ-C30) versión 3.0, y el “European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Colorectal Cancer Module” (EORTC QLQ-CR38). Los datos fueron analizados en el programa SPSS versión 16.0, a través de estadística descriptiva e bivariada. Resultados: los pacientes estudiados 72% son del sexo masculino y 28% del sexo femenino, edad media de 68,6 años. Los scores medios más bajos en las escalas funcionales son 65,33 relativos a las actividades diarias y los scores medios más altos en las escalas de síntomas son 41,33 referentes a la fatiga. Se observó una asociación positiva entre las funciones física, emocional y el desarrollo social con la percepción del estado de salud global /QV y una asociación negativa entre la percepción del estado de salud global /QV con los síntomas gastrointestinales. Conclusiones: la percepción de la QV sugiere una multitud de factores implicados. Los estudios regulares de evaluación de la calidad de vida pueden ayudar a identificar las necesidades de los pacientes y ofrecer cuidados promotores del bienestar y la mejor calidad de vida posible, poniendo en segundo plano el alargamiento de la vida a cualquier precio.

Descriptors: quality of life; colorectal cancer; chemotherapy; palliative care.

DESCRITORES: calidad de vida; neoplasias colorretales; quimioterapia; asistencia paliativa.

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Evaluation of the quality of life in patients...
INTRODUCTION

Cancer - a chronic-degenerative disease - is currently considered a major and pressing public health problem. It causes disturbances at the physical, psychological and social levels, that change patients’ daily lives. Dysfunctions, symptoms and disabilities that the disease itself entails together with adverse reactions of treatments usually interfere with the Quality of Life (QL). 1-3

In Portugal, Colorectal Cancer (CRC) is the leading cause of death by malignant tumor. 4-6 Regarding the incidence, CRC takes second place. 1,4-6 Moreover, in Portugal, mortality due to CRC has been consistently increasing since the beginning of the 1980s, at an annual average rate higher than 4%, while an evidence for termination of this trend is not foreseeable. 1,4 At global level, CRC is the third most diagnosed disease, affecting about one million people. In Europe the CCR annual incidence rate reaches 15%, with more than 400 thousand patients being diagnosed per year. 5-6 According to estimates by Associação Internacional Europacolon (AIE) only 3 out of 100 people with metastatic CCR survive for more than five years, though there is a chance of treatment, when there is an early diagnosis. 6 These facts fully justify the reasons why CCR becomes a pressing public concern at the national and global levels. 5-6

Chemotherapy has presently an important role regarding a cure for cancer, increasing life expectancy and palliation of symptoms. 8-9 It involves the use of cytostatic therapy chemicals that may or not be combined with each other aiming at treating the disease, controlling its evolution and their complications when recovery is not possible. 8-9

Due to its toxicity, patients undergoing chemotherapy, depending on their general condition, agents used and individual treatment reaction, often present side effects as a result of collateral destruction of healthy cells that may include: marrow suppression, immunosuppression, gastrointestinal function alterations (nausea, vomiting, diarrhea, constipation, abdominal cramps, mucositis) asthenia and alopecia, among others. 8-9

In the short, medium and long term, each patient will undergo this symptomatology on an individual basis, because each person has his/her own life history and each life situation is unique. 1 This makes it perfectly understandable that the QL for each patient, even if clearly diminished, may suffer an impact that differs from one person to another. In view of this, it can be said that it is essential that there is a growing concern towards treatment approaches, which besides fighting the disease, do not extremely affect the QL. 10

Palliative chemotherapy is needed when an oncologic disease is widespread and is administered in order to monitor symptoms and prolong patients survival for whom currently there is no prospect of a cure. 2,4,10

With research on drug combinations that are less harmful to the human body and more effective against cancer cells, there has been a decrease of side effects, providing an improvement of patients’ quality of life (QL), which in many cases give them an opportunity to live near-normal lives. 10

Undoubtedly, the concern with QL has also been facilitating the development of drugs with a high potential to combat cytostatics side effects. 11 However, even at present there are adverse reactions that limit the everyday life of patients undergoing this therapeutic such as nausea, vomiting, weight loss, diarrhea, anorexia, cachexia and alopecia, among others. 8,4,11-13

During treatment and end-of-life period there might exist several associated symptoms that are underestimated by health-care professionals from lack of suitable knowledge, or because patients often do not mention them thinking that nothing can be done for relieve. In the light of the palliative care, all patients with advanced chronic malignancies, without therapeutic response with curative intent and with a limited life prognosis shall have the right to medical and health care based on their own needs. 3

QL may be related to all aspects of one’s life, but when it comes to QL in oncology the term is essentially focused on the patient’s health (QVRS). 15-17 In this respect, the global health in connection with the functional status, the psychological well-being, individual perceptions of the state of health and symptoms resulting from the disease and chemotherapy will be considered.

The Evaluation Group of QL at the Mental Health Division of the World Health Organization (WHO) has defined QL as one’s perception about his/her own status in life within the context of the culture and values system in which he/she lives and with regard to his/her objectives, expectations, standards and worries. It is implicit in this definition that the concept of QL is subjective, multidimensional and includes both positive and negative evaluation elements. 17

The concern with patients’ QL has become increasingly relevant in order to analyze its
primary importance in the life of persons with chronic diseases in a number of ways. The full potentials of the new therapies, mainly in the fields of chemotherapy and biotechnology have positively or negatively influenced QL.\(^1\) Then it makes sense to evaluate the results that have been achieved so as to make decisions on the validity of establishing certain therapies, because it is not enough to increase patients’ life expectancy, being also very important that their remaining life time has a good quality.

As a result, QL evaluation is of great importance with the health context and it is necessary that side effects of some treatments, mainly those of chemotherapy need to be addressed considering their curative versus palliative nature.

A primary function for QL enhancement at cancer level is to promote the expansion of interventions in oncologic patients, so as to improve their QL. In an attempt to evaluate the QL of these patients, a number of tools have been developed, such as the questionnaire developed by the European Organization for Research and Treatment of Cancer (EORTC), aiming at designing QL evaluation questionnaires in cancer patients, which may be used in international studies and guide health-care professionals who make studies in this area.\(^15,17\)

In this connection, the EORTC developed a measure modular system composed of a general questionnaire, QLQ-C30, and several specific modules for each tumor, which allows the evaluation of inherent characteristics of both the disease and treatments.\(^15,17\)

QL evaluation enables the assessment of the patient’s behavior at different dimensions of QL (for example, physical, psychological and social dimensions or domains), taking into account the patient’s standpoint; make decision about the treatments that need to be applied to each patient and improve the respective interventions; assess patients’ preferences as they may value the effects of the various treatments in their QL.\(^17\) Nursing, within the interdisciplinary team, has a dominating role in these areas, particularly for controlling the side effects and outcomes of the treatment at the level of patients’ physical, psychological and social performance.

This study was designed to assess CCR patients’ QL submitted to palliative chemotherapy attended at an Oncology Unit of Baixo Alentejo (BA) in Portugal. It allows an understanding of patients’ perspectives towards the disease, symptoms and results effectively achieved with the therapy, thereby aiding the decision-making process. A thorough assessment at the QL levels may guide interventions different interdisciplinary team professionals may provide their patients with according to value for money that they may consequently produce for each one. Therefore, this promotes a more tailor-made assistance based on respect for the patients’ beliefs and values, with a view to promoting QL and not only increasing life expectancy at any cost.

**METHODOLOGY**

This is a cross-sectional, descriptive-correlational and quantitative-approach study conducted at an Oncology Unit of ULBSA. It was intended for 25 patients that would receive chemotherapy outpatient treatment, complying with the following criteria: be more than 18 years of age, present a level IV CRC, be undergoing chemotherapy with palliative purposes.

The research was approved by the Board of Directors after the project had been submitted to the written opinion of the Hospital Ethics Commission (Minutes No. 7, February 13 2007, note 3.1.1) and conducted in accordance with the Helsinki Declaration. Patients were invited to participate in the study while taking or waiting for the chemotherapy treatment. The right to information, secrecy and anonymity was guaranteed. Data were collected between July and September 2008. Questionnaires were self-responded.

For the QL evaluation the following tools were used: European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ-C30) version 3.0, and the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Colorectal Cancer Module (EORTC QLQ-CR38).\(^15,17\)

The EORTC QLQ-C30 (version 3.0) is a specific questionnaire for cancer patients, consisting of 30 questions, which comprises two scales, respectively: Global health status scale/QL and Functional scale that entails five dimensions: physical, emotional, cognitive and social behavior and daily activities. The EORTC QLQ-CR38 is a supplementary module for CRC patients QL evaluation, consisting of 38 questions, while 19 are responded by all patients and the remaining 19 are responded by subgroups of patients (men or women; patients with or without stoma). It comprises a symptoms scale, which includes alterations related to fatigue, nausea, vomiting, pain and Sub-scales/Items of additional symptoms that
include alterations related to dyspnea, insomnia, anorexia, constipation, diarrhea and financial impact. All questions in the questionnaire are codified from one to four in accordance with frequency and intensity, except questions 29 and 30, which are codified from one to seven.

All responses obtained by means of questionnaires were converted into scores from 0 to 100. High scores in the Functional scale and in the health status scale/QL indicate a better behavior or QL, whereas high scores in the symptoms scale, individual items and financial impact represent the worst symptomatology or QL.\textsuperscript{15,17}

Moreover, in order to allow the validation of QL dimensions within the clinical context, global scores of function, symptoms, individual items and financial impact of the disease were calculated based on the highly significant correlation between QL scales, in the manner prescribed by the EORTC.\textsuperscript{1,15,17}

The collected data were analyzed using the SPSS application (Package Statistical for the Social Science) version 16.0. Then they were codified, tabulated and presented as tables, graphs and charts. For the intended data processing descriptive statistics and bivariate statistics were used to identify possible associations present among variables.

Concerning the global health status/QL of the patients studied, it presents an average of 47.33 with a standard deviation of 16.44 (Picture 2). We took into account, the confidence interval to establish three levels of QL. Therefore, we determined that patients with scores below the lower limit (40.54) are at a low level of QL, those who present scores between the lower and higher limits (40.54 and 54.12) inclusive, are at an average level and those with scores above the higher limit (54.12) are at a high level (Picture 2).
In order to study the variables, we carried out the normality test of Shapiro-Wilk and found out that the global health status/QL (QL2) does not present the normal distribution pattern (p=0.003), that is why we use the non-parametric test rho of Spearman. According to the stipulated QL levels, of patients presented a low QL level as with, at an equivalent percentage, those who present an average QL level (Table 1).

When functional scale results are considered, obtained from verified questionnaire QLQ-C30 (Picture 3), we find values that outweigh QL global average scores in all functional scales with values above 65.00, whereas the lower limit is always higher than 51.00. It was found that the cognitive function presented the highest score averages (78.00) and simultaneously the lowest standard deviation (19.67), while daily activities presented the lowest average (65.33) and simultaneously the highest standard deviation (33.30). On the assumption that high scores in the functional scales indicate a better function or QL, it would be expected that the perception of the global health status/QL of the patients studied was placed at a high QL level. Nevertheless, the study has shown that the average of the global health status/QL was merely 47.33. Furthermore, it can be observed that cognitive and social functions are aspects that show the highest values around 80%. These results are in accordance with those findings in the study with 190 head and neck cancer patients, in which several functions present high values, namely the social function with a 91% rate. With regard to symptoms caused by cancer and translated by QLQ-C30, its presence reaches maximum values that are around 40%, while fatigue and anorexia are symptoms on the top of the list, values that are below those mentioned in the literature. Insomnia and pain, referred to in the literature as frequent, present, in this study, low average values, which could possibly be linked to a good control over symptoms.

Observing the distribution of results of the scales of symptoms obtained from QLQ-CR38 it can be observed that, in each of the cases, the average of scores is lower than 44.50, while problems with urination come closest to this value. Out of 8 women who constitute our population only 3 mentioned being sexually active. An issue that becomes a requisite for evaluating female sexual problems. Bec...
(32%) did not respond to the questions relating to problems with defecation.

On the other hand, the functional scale that presents the lowest average of score is the sexual behavior with a value of 28.66 and a standard deviation of 31.73. It should be noted that, regarding sexual satisfaction we obtained only 10 responses one time, to the question relating to sexual satisfaction, only those sexually active patients were allowed to respond. Out of the patients studied it was found that less than half of them are sexually active, which shows a less favorable sexual behavior. We found that sexual satisfaction reaches an average score of 56.67. The abdominoperineal resection of the rectum may be the primary cause of sexual behavior disturbances and as a result in the QL of patients with stoma. Yet, it must not be forgotten that before a colostomy is carried out, the cancer itself has a significant impact on several aspects of one’s life. Thus, there may be previous sexual dysfunctions, as demonstrates a study that reports 72.5% of the patients studied lost their physical ability to give and receive sexual pleasure and that 50% of the patients presented changes in the way they lead their relationships.

On the other hand, body image was the functional scale to present the highest average (74.44), which could possibly be linked to the fact that about one third of patients have stoma. Body image relates to the way in which a person conceives his/her body. The surgical treatment of colorectal cancer patients may leave some rather visible marks at the body image level, with negative effects on the psychological well-being, mainly if the surgery results in an ostomy of elimination. Furthermore, there are other factors that may cause alterations of one’s body image, such as the side effects caused by chemotherapy, namely alopecia and weight loss. From the use of QLQ-CR38 it was found that the drugs used did not cause alopecia, even though in a few cases there was a slight hair thinning. It was also found that the average score relating to weight loss was low.

In an effort to perceive if QL2 relates to the functional scales either of QLQ-C30 or of QLQ-CR38, we used the test rho of Spearman and found out that the emotional, social and forward looking perspective functions are positively correlated presented in decreasing order (rho=0.564; p=0.003; rho=0.525; p=0.007; rho=0.519; p=0.008) (Picture 4). It can be also seen that there is a weaker association between the psychological function and the global health status/QL and statistically significant with rho=0.430; p=0.032.

<table>
<thead>
<tr>
<th>Variables</th>
<th>X</th>
<th>SD</th>
<th>n</th>
<th>Lower limit</th>
<th>Higher limit</th>
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<tbody>
<tr>
<td>Body image</td>
<td>76.44</td>
<td>17.06</td>
<td>25</td>
<td>69.39</td>
<td>83.49</td>
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<td>Sexual behavior</td>
<td>28.66</td>
<td>31.73</td>
<td>25</td>
<td>15.56</td>
<td>41.76</td>
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<td>Sexual satisfaction</td>
<td>56.67</td>
<td>38.65</td>
<td>10</td>
<td>29.02</td>
<td>84.32</td>
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<td>Forward looking perspective</td>
<td>38.66</td>
<td>39.29</td>
<td>25</td>
<td>22.44</td>
<td>54.88</td>
</tr>
<tr>
<td>Problems with urination</td>
<td>44.44</td>
<td>17.27</td>
<td>25</td>
<td>37.31</td>
<td>51.57</td>
</tr>
<tr>
<td>Chemotherapy side effects</td>
<td>43.55</td>
<td>23.98</td>
<td>25</td>
<td>33.65</td>
<td>53.45</td>
</tr>
<tr>
<td>Symptoms in the gastrointestinal tract region</td>
<td>24.53</td>
<td>17.50</td>
<td>25</td>
<td>17.30</td>
<td>31.75</td>
</tr>
<tr>
<td>Male sexual problems</td>
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<td>42.74</td>
<td>14</td>
<td>16.99</td>
<td>66.35</td>
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<tr>
<td>Female sexual problems</td>
<td>—</td>
<td>—</td>
<td>3</td>
<td>—</td>
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<tr>
<td>Problems with defecation</td>
<td>24.65</td>
<td>24.12</td>
<td>17</td>
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<td>Stoma-related problems</td>
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<td>6.88</td>
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<td>30.42</td>
<td>25</td>
<td>7.43</td>
<td>32.56</td>
</tr>
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</table>

Picture 4. Results of the average scores obtained from functional and symptoms scales of QLQ-C38. Oncology Unit of ULSPA, 2007

Several literature reviews indicate the existence of significant correlations among the different functions considered, accomplishment of daily activities, symptoms associated with the disease (cancer) and treatments showing that cancer patients’ QL and well-being may be affected by these factors. As we have already seen high scores in the functional scales and low scores in the symptoms scales indicate a better function or QL. Then, one would have expected that the perception of the global health status/QL of the patients studied would be placed at a high QL level (Picture 5).
In order to check which cancer symptom has a stronger impact on QL2, we carried out a correlational analysis between the QL2 of the patients and symptoms, for these purposes using correlation statistical test rho of Spearman. From Picture 6, it can be easily evidenced that there are no significant correlations, all p have a value higher than 0.05 - and that the only factor positively correlating, even without statistical significance, is nausea and vomiting.

It should be noted that, in contrast to what is referred to in the literature, the financial impact identified in this study was poor. An example is the study where it is striking that the financial impact of the disease becomes progressively stronger as the disease and the treatment implications as well as their requirements increase. In our study it was not possible to demonstrate this statement because the financial difficulties present average scores of 18.66. The patients under treatment at the Oncology Unit of BA have the right to transport required for the treatment, which may justify these scores relating to financial difficulties.

We proceeded in a similar manner to identify which symptom related to colorectal cancer and chemotherapy presents the strongest association with QL2. By means of the statistical test of correlation rho of Spearman, we found out that there is a negative association between weight loss and QL2, that is, as the weight loss increases QL2 diminishes (Picture 6). A negative association is also seen among the symptoms of the gastrointestinal tract and QL2, that is, as the presence and intensity of these symptoms increase the perception patients have about their QL diminishes. However, our study shows that patients present average scores, for nausea and vomiting of 14%, contrary to what takes place in some researches such as the study carried out by Khouzam, Monteiro and Gerken, which shows that 70% to 80% of the patients under study, submitted chemotherapy, have nausea or vomiting, and 10% to 44% present anticipatory nausea or vomiting. On the other hand, concerning our study, we did not find association between nausea and vomiting with QL. This also contradicts a study which clearly indicates that patients undergoing their chemotherapy treatments present considerable nausea and vomiting, and that these symptoms significantly interfere with their QL. In relation to the remaining symptoms, there is no statistically significant correlations, given that the p presents a value higher than 0.05 (Picture 7) in all cases, though we may say there is a poor negative association chemotherapy side effects and QL2, as in the case of problems related to stoma and QL2.
CONCLUSION

Overall, the functional scales present high average scores, while the symptomatology related to cancer and the treatment shows an inverse trend with low average scores. In contrast to these results, the QL of the patients studied shows average scores below the expected values. This indicates a large number of factors involved in the individual perception of QL.

It is therefore considered essential to design longitudinal studies that evaluate QL, prior to treatment and after the accomplishment of a number of therapies in order to make it possible to compare the results in the same group of patients.

Regular studies of QL evaluation may contribute to the proper identification of needs and problems of patients, which enables the design of a customized care planning that sets forth as a primary goal the promotion of the well-being and plausible improvement of QL based on realistic expectations. Therefore it is predictable that the QL evaluation will take on an enhanced importance in the future and serve the interests of patients who need special protection.

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