ISSN: 1676-4285

OBJN Online Brazilian Journal of Nursing
ENGLISH
Federal Fluminense University
AURORA DE AFONSO COSTA NURSING SCHOOL
uff
Original Articles

Quality of life and people using antineoplastic agents: a descriptive study

Caroline Uberteli de Sá[1], Andrea Bezerra Rodrigues[2], Patrícia Peres Oliveira[3], Cláudia Toledo de Andrade[4], Juliana Gimenez Amaral[5],

1 Ladies Beneficent Society of Sirian-Lebanese Hospital
2 Ceara Federal University
3 São João del-Rei Federal University
4 Albert Einstein Israelian Hospital
5 Paulista University

ABSTRACT

Aims: To evaluate the quality of life of people presenting nausea and vomiting induced by antineoplastic agents, and to correlate quality of life with the emetogenic potential of chemotherapeutic protocols and with the dimensioning of the antiemetic scheme. **Method:** This is a descriptive, quantitative study, performed in an onco-hematologic ward of a hospital located in the municipality of São Paulo, Brazil. The standard SF-36 questionnaire was used to evaluate the quality of life of the individuals, and another questionnaire was used to characterize the targeted population. **Results:** The largest number of the participants was female (70%), aged between 60 and 69 years old (33%), diagnosed with gynecological cancer (30%), and were following treatment protocols with moderate emetogenic potential (70%). **Discussion:** Commitment was observed in all evaluated domains of quality of life. There was no significant difference when compared to emetogenic potentials or antiemetic dimensioning. **Conclusion:** The most highly affected domains of quality of life for these individuals were physical limitation and vitality.

Descriptors: Drug Therapy; Nausea; Vomiting; Quality of Life; Neoplasms.

Sá CU, Rodrigues AB, Oliveira PP, Andrade CT, Amaral JG.Quality of life and people using antineoplastic agents: a descriptive study.Online braz j nurs [internet] 2014 Sep [cited year month day]; 13 (4):579-90. Available from: http://www.objnursing.uff.br/index.php/nursing/article/view/4979

INTRODUCTION

Continuous population growth, associated with the progressive and acute growth of adult and elder populations, brings with it a great shift in the world population scenario; it significantly influences the effects of cancer on societies[1]. It is estimated that, by 2030, the incident number of cancer cases will reach around 27 million, with 17 million deaths and another 75 million people living with some sort of neoplastic occurrence at any one time, across the world[2].

Anti-neoplastic chemotherapy is one of the most popular modes for treating cancer. Depending on its goal, it can be classified as either healing (aiming to eradicate the evidence of neoplastic cells), or palliative (aiming to minimize the symptoms originating from the tumor proliferation, increasing the odds in favor of survival). It can also be characterized according to the moment it is used during the treatment: adjuvant, i.e. performed after the main treatment procedure, such as surgery; and neoadjuvant, when it is used before the main treatment procedure[3-4].

The person under antineoplastic chemotherapeutic treatment can present collateral and toxicity effects found at hematologic, gastrointestinal, cardiac, hepatic, neurologic, renal or dermatologic levels, in addition to further allergic reactions[3].

Among the most feared collateral effects are nausea and vomit. Despite the fact that these events normally occur simultaneously, they are distinct events; it is possible for one person to feel nauseous without having to vomit[4]. Nausea can be described as a subjective sensation of gastric uneasiness, involving many autonomous signals: pallor, dilated pupils, bradycardia or tachycardia, and salivation. Vomit is understood as the expulsion of the gastric content through the mouth, usually preceded by nausea, and usually associated with craving[3,5].

Not all antineoplastic medication provokes nausea. The incidence of this event is directly related to the emetogenic potential of the drug, which means: the peak, the duration, and the intensity of nausea and vomiting. The chemotherapeutic medications considered to have moderate or high emetic potential are the ones that normally cause such reactions. In the case of antineoplastic agents with high emetic potential, such as cisplatin, more than 90% of the individuals using these medications presented the afore mentioned symptoms. With the use of antineoplastic with moderate emetic potential (such as carboplatin), 30% to 90% of the users presented nausea and/or vomiting[6].

In the past years, there has been an important development related to antiemetic treatment, making it more effective and more tolerated, especially with the arrival of 5-HT3 antagonists. Antiemetic therapy aims to stop the nausea, either in in its acute form (during the first 24 hours after chemotherapy), in late (after the 24 hours), or in previous stages (before the administration of treatment)[5-6]. The medication can be administered before the infusion of the chemotherapeutic agent, or at regular, scheduled intervals[5,7]. In the case of ineffective emetic prophylaxis, the acute events of nausea and vomiting can occur during the first two hours after the beginning of an antineoplastic procedure[6].

Inadequate control is the main risk factor associated with the appearance of late symptoms, which can last from three to four days. The main factor that generates the anticipated nausea is the appearance of late and acute symptoms, mainly during the first cycle of chemotherapy[6-7].

When choosing a prophylactic antiemetic treatment, one must take into consideration the individual characteristics of the patient, such as

Sá CU, Rodrigues AB, Oliveira PP, Andrade CT, Amaral JG.Quality of life and people using antineoplastic agents: a descriptive study.Online braz j nurs [internet] 2014 Sep [cited year month day]; 13 (4):579-90. Available from: http://www.objnursing.uff.br/index.php/nursing/article/view/4979

anxiety, susceptibility to vomiting[5], and especially, the emetogenic capability of the agent.

To ease the recognition of the emetogenic potential of each medication used, and to know which is the correct dosage or frequency, various studies have been performed and directives published by organizations such as the National Comprehensive Cancer Network (NCCN) and the American Society of Clinical Oncology (ASCO). Based on such directives, some institutions have generated protocols for the prevention of nausea and vomiting, in order to guide professionals in identifying the emetogenic potential of medication, and promote adherence to the most adequate antiemetic treatment[6].

The adequate control of induced nausea through antineoplastic agents must be performed so there are no extra negative effects for the patient with cancer. These symptoms reduce the adherence and the effectiveness of the treatment, and may initiate secondary complications, such as anorexia, and hydro-electrolyte and metabolic imbalances, besides their direct impact on the quality of life of the individual[4-6].

Quality of life (QL) is an idea that has been studied for many years now, especially in oncology, due to developments in treatments and in the rise of the overall survival rate of people with cancer[7]. Despite the fact that, for some time, studies failed to reach a consensus in their understanding of the subjective understanding of QL, three aspects are considered consensual among researchers: 1) the subjectivity of the individual, composed by their own internal world; 2) the multidimensionality of QL, which includes elements from the physical, social, psychological, and spiritual dimensions; and 3) the bipolarity that results from positive and negative influences originating in everyday life[8-9].

Therefore, QL can be understood as a multifactorial idea, which directly influences the policies and practices in the area of healthcare[10]. Measuring QL becomes an important issue in assisting healthcare practice, as it can be used as an indicator for clinical analysis and in the decision-making process of therapeutic procedures.

The positive diagnosis of cancer already brings a reduction of QL for the individual. When planning the proper treatment, it is necessary to minimize the discomfort brought on by collateral effects. Hence, the question arises: is there a correlation between the QL of people that presented nausea and vomiting induced by the antineoplastic agents with emetogenic potential based on the chemotherapeutic protocol, matching the sizing proposed by the antiemetic scheme?

Nursing has an important role in identifying and controlling nausea and vomiting. The understanding of the emetogenic potential of the medication, the individual risk factors, and of the characteristics of nausea and vomiting induced by antineoplastic agents is fundamental to oncologic nursing practice. During nursing consultations, it is imperative to evaluate the individual before the antineoplastic chemotherapy begins, and to note any related complaints from the patient.

Based on these assumptions, the hypothesis that was released is: there is commitment in QL domains of individuals in anticancer treatment and difference when compared with the potential emetogenic drugs and antiemetics sizing - that is, if the dose is adequate according to the emetogenic potential of the chemotherapy agent, under or overdosed.

It is believed that the various dimensions of QL are essential to evaluate the impact a certain treatment can have on the lives of people. From this perspective, the present study aims to evaluate the QL of people that present nausea and vomiting induced by the antineoplastic agents, and to correlate the QL to the emetogenic po-

tential of the chemotherapeutic protocol with the sizing of the antiemetic scheme proposed.

METHOD

This is a descriptive, exploratory, prospective, transversal study, under level II of a quantitative approach. The methodological standards were based on the concepts of qualitative research theory[11-12].

The present study was performed in an oncology ward of a general hospital, private-owned, large-sized and located in the municipality of São Paulo, Brazil. Based on convenience sampling, the criteria of inclusion used were oncologic patients admitted to the aforementioned ward, who used antineoplastic agents with moderate or high emetogenic potential, and who followed at least one day of the chemotherapeutic protocol during the period from August to December 2011. There were 30 participants who fitted these criteria.

During the process, other elements of selection were included: people who are 18 years old or more, under antineoplastic chemotherapy with moderate or high emetogenic potential, and conscious, based on a score of less than or equal to 15 on the Glasgow Scale.

The criteria of exclusion were individuals that presented situations that could interfere in the presence of nausea and vomiting, such as intestinal obstruction, brain metastasis, peritonitis, uremia, benign gastric illnesses, use of radiotherapy together with chemotherapy in the abdominal region, and the use of opioids with emetogenic potential above 10% (e.g. morphine, tramadol, buprenorphine and oxycodone).

Two instruments were used to collect the data. One of them was a questionnaire built by the authors, including information regarding the characterization of the sample, such as gender, age, Glasgow Scale score, medical diagnosis, associated clinical conditions, information about the chemotherapeutic treatment (chemotherapeutic medication used, classification of the emetogenic potential, cycle and day of chemotherapy), the use of opioids, the association of radiotherapy in the abdominal region, regular-use medication, antiemetic schemes used either in the ward or at home, and the sizing of the antiemetic scheme (or in other words: if it is adequate to the emetogenic potential of the chemotherapy, under- or overdosed).

The second instrument, the Medical Outcomes Study 36-Short Form Health Survey (SF-36), was adapted by the authors to fulfill the needs of this study. The SF-36 was translated and validated for the Portuguese language[13] with the aim to evaluate respondents' QL. The SF-36 is a multidimensional questionnaire composed of 36 items, divided into eight domains: functional capabilities (ten items), physical aspects (two items), emotional aspects (three items), pain (two items), general health state (five items), vitality (four items), social aspects (two items), mental health (five items), and one more question involving a comparative analysis between general health conditions today and the same conditions one year prior.

Questions 7 and 8, related to pain, and Question 2, not related to any domain, were removed. The modified questions were adapted to include the words "nausea" and vomiting, and the timeframe was transformed, from "during the past four weeks" to "during the past week". The reason for such changes was the duration in which antineoplastic agents provoke nausea and vomiting: usually seven days or less.

Initially, the data related to the inquiries present in the questionnaire SF-36 were transformed into domains. To evaluate each domain, as in **Table 1**, after using this instrument, each question received a value; later,

Sá CU, Rodrigues AB, Oliveira PP, Andrade CT, Amaral JG.Quality of life and people using antineoplastic agents: a descriptive study.Online braz j nurs [internet] 2014 Sep [cited year month day]; 13 (4):579-90. Available from: http://www.objnursing.uff.br/index.php/nursing/article/view/4979

each answer from the sample group had their points summed up, and at an even later stage, when applying the formula to calculate a score for each domain, these final elements achieved a certain score, varying from zero, the worst health state possible, to 100, the best result possible[13].

Table 1 - Corresponding domains to each question of the questionnaire SF-36. São Paulo, Brazil, 2011.

Domain	Question
Functional Capability	2
Physical Limitation	3
General Health Status	1 e 8
Vitality	6 (itens a, e, g, i)
Social Aspects	5 e 7
Limitations by Emotional Aspects	4
Mental Health	6 (itens b, c, d, f, h)

Source: Designed by the authors, 2012.

The score range is fixed and varies according to **Table 2**.

Table 2 - Lower limit and score range of each question. São Paulo, Brazil, 2011.

Domain	Lower Limit	Score Range
Functional Capability	10	20
Physical Limitation	4	4
General Health Status	5	20
Vitality	4	20
Social Aspects	2	8
Limitations by Emotional Aspects	3	3
Mental Health	5	25

Source: Designed by the authors, 2012.

The numerical results of the seven domains of QL from questionnaire SF-36 were distributed in quartiles (0 to 25, 26 to 50, 51 to 75, and 76 to 100), the quartile 0-25 being considered the worst score achievable, and the quartile 76-100 the best possible score. Besides that, the values were expressed in average, median and standard deviation, when necessary.

For a statistical analysis of the data collected, the techniques of descriptive and inferential statistics were used, based on the information gathered in absolute and percentage distributions, and statistical measurements. The information was analyzed using SPSS software, Version 11®, and the results were considered significant if $p<0.05$.

To confront the hypothesis positing a correlation between QL and the emetogenic potential of the antineoplastic chemotherapeutic protocol, the authors used the *t Student* test. For the hypothesis that dealt with the correlation between QL and the antiemetic agent sizing, the *Mann-Whitney-Wilcoxon* test was used, which is a non-parametric test for when data do not match the basic observations found in the *t Student* test results.

This study followed all ethical standards for research involving human beings, according to Resolution 466/2012 of the Brazilian National Health Council. This project was approved by the Committee of Ethics and Research at the Albert Einstein Israeli Hospital in São Paulo, Brazil, as transcribed in the CAAE n.0064.0.028.000-11, protocol n.149/2011. Previous to data collection, a formal solicitation of authorization was made to the person in charge of the oncology ward. The research participants accepted to participate voluntarily in this study, by signing a Free and Clear Consent Agreement.

RESULTS

Thirty people under antineoplastic treatment were studied. It was observed that the majority of this population was female (21 individuals; 70%), while 10 (33%) were aged between 60 and 69 years old. The average age was 47.1 years old. In regards to the anatomical location of the neoplasm, nine presented gynecological cancer (30%), in other words, breast, ovary and/

or cervical cancer; they were followed by six people with neoplasms in the respiratory system (20%); four people with gastrointestinal cancer; three individuals with cancer of the male reproductive system (10%); two with hematological cancer (7%); one with Ewing's Sarcoma (3%); one with a tumor in the head/neck region; and a final individual with non-located cancer (3%).

Based on the protocol of treatment these patients were going through, 21 had a moderate emetogenic potential (70%), the most common medication used being cisplatin/gemcitabine (13%). The other protocols found were BEP (etoposide/cisplatin/bleomycin), carboplatin/gemcitabine/bevacizumab, carboplatin/paclitaxel, carboplatin/pemetrexed/bevacizumab, cisplatin, EP (etoposide/cisplatin), Folfiri (irinotecan/fluorouracil), FOLFOX-4 (oxaliplatin/fluorouracil/bevacizumab), mFolfox-6 (oxaliplatin/fluorouracil), TC (docetaxel/cyclophosphamide), and topotecan/cyclophosphamide.

The nine patients (30%) that underwent protocols with a high emetogenic potential used: ABVD (doxorubicin/bleomycin/vinblastine/dacarbazine), AC-T (doxorubicin/cyclophosphamide/paclitaxel), and R-CHOP (rituximab/cyclophosphamide/doxorubicin/vincristine).

In regards to the dimensioning of the antiemetic scheme of these protocols, from the 21 procedures considered to have moderate emetogenic potential, these procedures demonstrated adequate emetic sizing in the case of all 30 patients (100%). Of the nine (30%) protocols with high emetogenic potential, four were found to be under-dosed.

The average scores of the domains evaluated by the questionnaire QL SF-36 are presented on **Table 3**; the domain with the lowest scores was Physical Limitation, however, with the highest standard deviation. The domain with the highest averages was Mental Health, followed by General Health State.

Table 3 - Scores of the dimensions of the questionnaire QL SF-36. São Paulo, Brazil, 2011.

Domains	Average ± Standard Deviation	Lowest Score	Highest Score
Functional Capability	75.2 ± 26.1	25	100
Physical Limitation	56.7 ± 44.5	0	100
General Health Status	75.6 ± 15.8	20	97
Vitality	66.2 ± 15.4	35	95
Social Aspects	74.2 ± 26.5	12	100
Limitations by Emotional Aspects	73.3 ± 41.4	0	100
Mental Health	76.2 ± 19.9	10	96

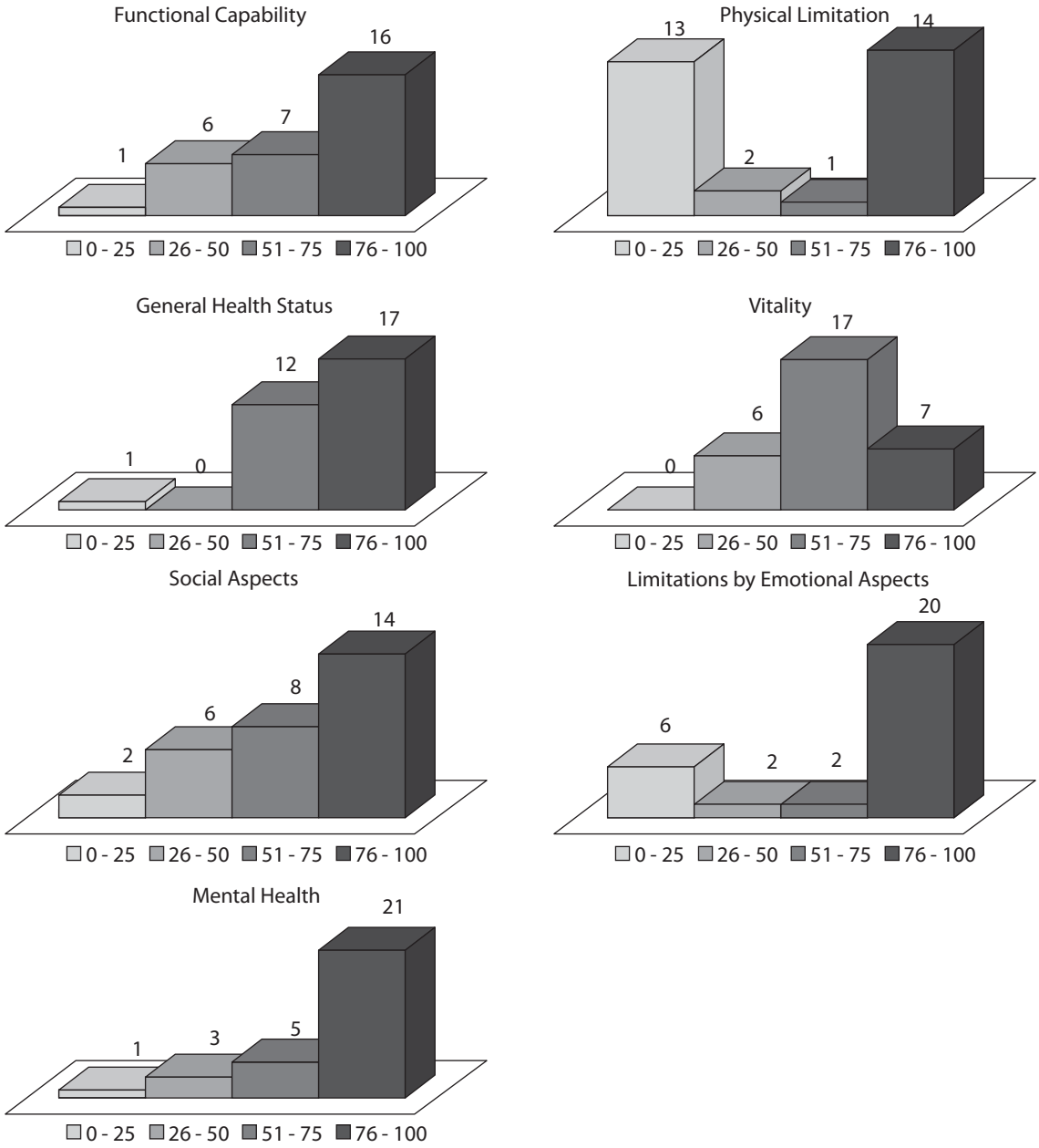
Source: Designed by the authors, 2012.

In Image 1, there is an illustration of the distribution of scores among the quartiles for each domain of QL from the questionnaire SF-36. No domain presented a dominant frequency in the first quartile (interval 0-25). The domain that presented higher frequency in the last quartile (interval 76-100) was Mental Health, with 21 cases (70%), followed by the Limitation by Emotional Aspects, with 20 interviewees (76%). The domain that presented a higher frequency in the last quartile (interval 0-25) was Physical Limitation, with 13 respondents (43%). There was a considerable difference in the frequency of answers in the interval 0-25 for the domain Physical Limitation when compared to all the other domains. The second highest frequency of answers in the first quartile was Limitation by Emotional Aspects, with six answers (20%).

When using the *t Student* test to compare statistically the population of a study that was undergoing a chemotherapeutic treatment, following a protocol of high emetogenic potential, and a population that was undergoing protocols of moderate emetogenic potential (plus, the domains of QL), the difference was

Sá CU, Rodrigues AB, Oliveira PP, Andrade CT, Amaral JG.Quality of life and people using antineoplastic agents: a descriptive study.Online braz j nurs [internet] 2014 Sep [cited year month day]; 13 (4):579-90. Available from: http://www.objnursing.uff.br/index.php/nursing/article/view/4979

Image 1 - Percentage distribution of patients in quartiles of domains of the SF-36 questionnaire, São Paulo-SP, 2011.



considered non-significant, as described in Table 4.

The same occurred when using the *Mann--Whitney-Wilcoxon* test to compare statistically the population of the sample with the appropriate antiemetic sizing, and individuals with subsized antiemetic procedure, and the domains of the QL. The difference between the two samples was considered not meaningful, as seen in Table 5.

Table 4 - Comparison of the scores in the dimensions of questionnaire SF-36 among the groups of high and moderate emetogenic potential. São Paulo, Brazil, 2011.

Domains	High Emetogenic Potential	Moderate Emetogenic Potential	P
n	9	21	
	Average ± Standard Deviation	Average ± Standard Deviation	
Functional Capability	79.4 ± 21.7	73.3 ± 28.1	0,567
Physical Limitation	58.3 ± 45.1	56.0 ± 45.3	0,899
General Health Status	74.9 ± 12.6	76.0 ± 17.2	0,864
Vitality	67.2 ± 11.8	65.7 ± 17.0	0,812
Social Aspects	79.2 ± 20.7	72.0 ± 28.8	0,505
Limitations by Emotional Aspects	74.1 ± 36.4	73.0 ± 44.2	0,948
Mental Health	68.3 ± 28.5	79.6 ± 14.5	0,288

p>0,05
Source: Designed by the authors, 2012.

Table 5 - Comparison of scores of the dimensions of questionnaire SF-36 among the groups of adequate antiemetic dimensioning and under-dosed antiemetic scheme. São Paulo, Brazil, 2011.

Domains	Adequate dimensioning	Under-dosed	P
	Antiemetic scheme	Antiemetic scheme	
n	26	4	
	Median	Median	
Functional Capability	92,5	62,5	0,4641
Physical Limitation	75	50	1
General Health Status	78,5	69,5	0,4641
Vitality	65	72,5	0,4829
Social Aspects	81,25	75	0,7837
Limitations by Emotional Aspects	100	83,33	0,9271
Mental Health	84	84	0,8309

p>0,05
Source: Designed by the authors, 2012.

DISCUSSION

The results found in this research demonstrate the commitment of different dimensions analyzed by the questionnaire SF-36, as from the people that composed the sample group, and presented nausea and vomiting induced by antineoplastic agents. In general terms, the lowest average scores were found in the dimensions of Physical Limitation and Vitality. There are still few reliable studies to guide adequate antiemetic therapy, even though the considerable development of antiemetic medication has been acknowledged[14]. It is important to mention that these dimensions specifically evaluate the performance of everyday and working tasks, the sensation of despair and lack of energy, which are common symptoms among cancer patients.

From the seven domains of the questionnaire SF-36 represented in Image 1, it was possible to see that the subjects of the sample are distributed in all quartiles, demonstrating the perception of these people in regards to the issues analyzed in each domain of the SF-36; this fact demonstrates there is no hegemony over the answers given. Many conditions can interfere in this understanding, such as age, duration of treatment, presence of comorbidities, and any other inter-occurrences that may have affected the treatment. All these elements are present in the study population[8-10].

In the present research, despite Physical Limitation becoming the domain with the highest standard deviation results, it also presented the highest number of patients in the lowest quartile, thus resulting in the worst scores for QL. Another study has also found a significant reduction in the physical and cognitive capabilities and an increase of fatigue, pain, insomnia, and gastrointestinal toxicity in people with cancer under antineoplastic treatment[15]. This demonstrates that both fatigue and insomnia

are symptoms that usually arrive from the treatment, and are intensified by the presence of nausea and vomiting.

One study that took place in the United States showed that nausea and vomiting induced by antineoplastic agents are factors that harm the physical conditions used in labor activities, household chores, leisure activities, fixing meals, practicing self-care, and even being able to take medication[16].

In the Vitality domain, half of the interviewees answered that nausea figured in their answers. From this group, more than half of the respondents were found in the quartile 51-75. Physical function and vitality are directly correlated, as people who presented physical limitations usually needed more of a stimulus to start and/or finish their everyday life tasks, hence the sensation of discouragement and lack of energy as common symptoms[8,13].

This factor can be aggravated by the intensification of secondary symptoms from chemotherapeutic treatment, such as nausea and vomiting. In this research, two interviewees who responded that nausea influenced their vitality were, in fact, receiving an antiemetic under-dose. The possibility of a correlation between inadequate antiemetic prophylaxis and the domain of Vitality could be tested by increasing the size of the sample, including more individuals with inadequate antiemetic dimensioning.

In the General Health State domain, there was little influence from nausea, vomiting or other symptoms. Other studies, performed with oncologic patients on antineoplastic treatment, have also demonstrated that, besides the secondary symptoms of the treatment and the significant reduction of some important functions, such as physical and cognitive functions, the general state of health does not present low averages[9-10,15]. This occurs due to the fact that items that are around the average score, especially the items related to mental functions, such as functional abilities, social and emotional aspects, and mental health supported the QL of the individuals.

In regards to the domain of Mental Health, there was a predominance of patients in the quartile 76-100. Only 30% answered that nausea figured in their answers. This demonstrates that the interference of nausea and vomiting reduces physical conditions especially, while at the same time these factors do not significantly influence mental conditions.

However, when comparing the averages recorded in the Mental Health domain by people under chemotherapeutic treatment with protocols of moderate emetogenic potential, and individuals under chemotherapeutic treatment with protocols of high emetogenic potential, it was seen that there was a reduction of the average values found in the second group. This data indicates there is a tendency in the domain of mental health for subjects under treatment with high potential to present lower averages. It is possible that, in a larger sample population of people under treatment with high-emetogenic--potential protocols, this information would become statistically significant. A similar observation was described in a study performed with 200 people with cancer, under antineoplastic treatment, in which 120 of those were under high-potential protocols[16].

Some studies show that, on average, the individuals under antineoplastic chemotherapeutic procedures with high emetogenic potential report a higher number of episodes of vomiting per day, mainly tardy ones, when compared to the people under moderate potential protocols. It does not have the same correspondence with the episodes of nausea, both acute and tardy events, which kept a similar frequency for both high and moderate emetogenic potential. On the other hand, when comparing the impact of such

symptoms on the QL of the individual, it was seen that the most predominant factor was nausea, manly the tardy type, for both groups[9,15,16].

There are factors that must be considered concerning the presence of induced nausea and vomiting by antineoplastic agents: being female, having an alcoholic consumption rate of less than 10 doses per week, and having a historical record of frequent nausea and vomiting – as, for example, during pregnancy. The risk of vomiting after chemotherapy sessions increases by 20%; in people that do not present these factors, the risks increase by up to 76%[16].

It is important to highlight that the success achieved in the prevention of acute nausea doesn't always mean a reduced incidence of tardy nausea and vomiting, especially in treatments with high emetogenic potential[4-6].

The American Society of Clinical Oncology (ASCO) updated its directives and included the indication of aprepitant, as well as a corticosteroid and an antagonist 5-HT3 in the antiemetic scheme for the high-emetogenic-potential protocol, especially with high doses of cisplatin[17]. Aprepitant is an oral antagonist of the receptors of neurokinin 1 (NK-1) prescribed to prevent the acute nausea and vomiting associated with the initial and repeated cycles of antineoplastic agents. It is an optional antiemetic which can be used for chemotherapeutic protocols with moderate emetogenic potential, according to the individual characteristics of the patient and the chosen chemotherapy[15,17].

In this present study, out of the nine participants that were under a chemotherapeutic protocol with high emetogenic potential, four did not use aprepitant; hence they were classified under an antiemetic scheme that is under-dosed. Among those, one patient used only one antagonist 5-HT3, while the other three used a combination of corticosteroid plus an antagonist 5-HT3.

A study performed with patients diagnosed with lung cancer of non-small cells, who were under treatment with a high potential protocol, demonstrated that the complete response (in other words, without any episode of acute nausea and vomiting) was more effective when using a combined antiemetic prophylaxis and oral aprepitant, antagonist 5-HT3, and corticosteroid, the last two via parenteral[17]. For patients undergoing antineoplastic treatment, this procedure generates a smaller impact on patients' everyday life, and as a consequence, on their QL[16,17]. In Brazil, unfortunately, there are few health plans that finance aprepitant; thus, a significant portion of the population does not have access to this medication.

It is important to remember that the questionnaire used in the present study deals with a timeframe in which the individual could register their own experiences for the last four days, while other protocols have an established timeframe of 15 to 21 days. This fact may have affected the responses since, so many days after the last cycle, nausea might not have been a symptom impacting on QL.

The results of the analysis demonstrate the negative interference of antineoplastic chemotherapy in the QL of the participants. This fact demonstrates the importance of the evaluation of patients with cancer during the whole treatment process, in all aspects, not limited to evaluations and questions linked to physical signs and symptoms but also including psychosocial aspects.

In this continuous and dynamic process, the role of the nurses is decisive, in both administering and guiding antiemetic drugs (once they are the health professionals that can identify early alterations and intervene upon them), as well as in the singularity and the interdisciplinary aspects involved in the treatment. In this way, nurses can create a dialogue, gaining the trust

Sá CU, Rodrigues AB, Oliveira PP, Andrade CT, Amaral JG.Quality of life and people using antineoplastic agents: a descriptive study.Online braz j nurs [internet] 2014 Sep [cited year month day]; 13 (4):579-90. Available from: http://www.objnursing.uff.br/index.php/nursing/article/view/4979

of the patient, and clarify the self-conception of the subject, providing care based on common sense, and showing the best way to go[14,16].

CONCLUSION

Nausea and vomiting induced by antineoplastic agents have a negative impact on all domains of the QL of patients under chemotherapy treatment, with some being more affected by these events than others. The QL domains that are most affected in these patients are physical limitation and vitality.

When comparing the sample populations under chemotherapy treatments with high and moderate emetogenic potential, reduced averages were seen across the majority of the domains for the group with high potential; however, this information was not statistically significant. This may be due to the limitations found during the execution of this research – a low demand from patients with cancer requiring chemotherapy with a high and moderate emetogenic potential within the studied scenario, during the established timeframe.

By knowing the implications of the antineoplastic treatment with different emetogenic potentials, and relating them to antiemetic prophylaxis, the information thus generated can be a subsidy to the practice of the nurse when planning care procedures focused on the main symptoms and necessities of the patients, as well as providing means to enable an improvement of these symptoms, and as a consequence, a smaller impact on QL.

For such, it would be necessary for more studies about the topic to arrive, and for health professionals to acquire a wider view, beyond the objective of the direct results of treatment, and at the same time, during the whole process of treatment. In the research scenario, in 2012, the implementation of a monitoring protocol of patients under antineoplastic agents took place, which considered the emetogenic potentials of the drugs used and the antiemetic sizing. This element permits us to learn from experienced situations and problems, which can remain inherent, hidden or not otherwise apparent in everyday health care.

REFERENCES

1. Siegel R, Naishadham D, Jemal A. Cancer statistics, 2013. CA Cancer Journal for Clinicians. 2013; 63(1):11-30.
2. Stewart B, Wild CP. World Cancer Report 2014. Lyon, France: International Agency for Research on Cancer; 2014.
3. Peck-Radosavljevic M. Drug therapy for advanced-stage liver cancer. Liver Cancer. 2014;3 (2):125-31.
4. Karagozoglu S, Tekyasar F, Yilmaz FA. Effects of music therapy and guided visual imagery on chemotherapy-induced anxiety and nausea–vomiting. J Clinical Nursing. 2012; 22: 39-50.
5. Barak F, Amoyal M, Kalichman L. Using a simple diary for management of nausea and vomiting during chemotherapy. Clin J Oncol Nurs. 2013; 17(5):479-81.
6. Rugo HS, Navari RM. New data in emerging treatment options for chemotherapy-induced nausea and vomiting in clinical practice: general discussion. Clin Adv Hematol Oncol. 2014; 12(3 Suppl 9):12-3.
7. Xiao Y, Liu J, Liu YC, Huang XE, Guo JX, Wei W. Phase II Study on EANI Combined with Hydrochloride Palonosetron for Prevention of Chemotherapy--induced Nausea and Vomiting Following Highly Emetogenic Chemotherapy. Asian Pac J Cancer Prev. 2014;15 (9):3951-4.
8. Freire MEM, Sawada NO, França ISX, Costa SFG, Oliveira CDB. Health-related quality of life among patients with advanced cancer: an integrative review. Rev Esc Enferm USP [Online]. 2014 [Access 2014 Jun 27]; 48(2):357-67. Available from: http://www.scielo.br/pdf/reeusp/v48n2/0080-6234-reeusp-48-02-357.pdf

9. Farhadi M, Reisi-Dehkordi N, Kalantari M, Zargham-Boroujeni A. Efficacy of group meaning centered hope therapy of cancer patients and their families on patients' quality of life. Iran J Nurs Midwifery Res. 2014; 19(3):290-4.
10. Brom L, Pasman HR, Widdershoven GA, Van Der Vorst MJ, Reijneveld JC, Postma 10. TJ, et al. Patients' Preferences for Participation in Treatment Decision-Making at the End of Life: Qualitative Interviews with Advanced Cancer Patients. PLoS One. 2014; 9 (6):1-8.
11. Richardson RJ. Pesquisa Social: métodos e técnicas. 3 ed. São Paulo: Athas, 2010.
12. May T. Social Research: Issues, Methods and Research. 4 ed. London: British Library, 2011.
13. Ciconelli RM, Ferraz M B, Santos W, Meinão I, Quaresma MR. Tradução para a língua portuguesa e validação do questionário genérico de avaliação de qualidade de vida SF-36 (Brasil SF-36). Rev Bras Reumatol. 1999; 39 (3):143-50.
14. Gozzo TO, Moyses AMB, Silva PR, Almeida AM. Nausea, vomiting and quality of life in women with breast cancer receiving chemotherapy. Rev Gaúcha Enferm. 2013; 34 (3): 110-16.
15. Fernández-Ortega PP, Caloto MT, Chirveches EE, Marquilles RR, Francisco JS, Quesad AA. Chemotherapy – induced nausea and vomiting in clinical pratice: impacto on patients' quality of life. Support Care Cancer. 2012; 20 (12):3141-48.
16. Pirri C, Bayliss E, Trotter J, Olver IN, Katris P, Drummond P, et al. Nausea still the poor relation in antiemetic therapy? The impact on cancer patients' quality of life and psychological adjustment of nausea, vomiting and appetite loss, individually and concurrently as part of a symptom cluster. Support Care Cancer. 2013 Mar; 21(3):735-48.
17. Ito Y, Karayama M, Inui N, Kuroishi S, Nakano H, Nakamura Y, et al. Aprepitant in patients with advanced non-small-cell lung cancer receiving carboplatin-based chemotherapy. Lung Cancer. 2014; 84(3):259-64.

All authors were present in the development, elaboration and writing stages of this manuscript.

All authors participated in the phases of this publication in one or more of the following steps, in According to the recommendations of the International Committee of Medical Journal Editors (ICMJE, 2013): (a) substantial involvement in the planning or preparation of the manuscript or in the collection, analysis or interpretation of data; (b) preparation of the manuscript or conducting critical revision of intellectual content; (c) approval of the versión submitted of this manuscript. All authors declare for the appropriate purposes that the responsibilities related to all aspects of the manuscript submitted to OBJN are yours. They ensure that issues related to the accuracy or integrity of any part of the article were properly investigated and resolved. Therefore, they exempt the OBJN of any participation whatsoever in any imbroglios concerning the content under consideration. All authors declare that they have no conflict of interest of financial or personal nature concerning this manuscript which may influence the writing and/or interpretation of the findings. This statement has been digitally signed by all authors as recommended by the ICMJE, whose model is available in http://www.objnursing.uff.br/normas/DUDE_eng_13-06-2013.pdf

Received: 14/01/2014
Revised: 3/11/2014
Approved: 3/11/2014