

Hope of cancer patients undergoing chemotherapy

Esperança de vida de pacientes com câncer submetidos à quimioterapia

Julia Wakiuchi¹

Joisy Aparecida Marchi¹

Loianne Sharlise Norvila¹

Sônia Silva Marcon¹

Catarina Aparecida Sales¹

Keywords

Life expectancy; Neoplasms; Drug therapy; Oncologic nursing; Nursing assessment

Descritores

Esperança de vida; Neoplasias; Quimioterapia; Enfermagem oncológica; Avaliação em enfermagem

Submitted

September 1, 2014

Accepted

September 15, 2014

Corresponding author

Julia Wakiuchi

Colombo Avenue, 5790, Maringá, PR, Brazil. Zip Code: 87020-900
julia.wakiuchi@gmail.com

DOI

<http://dx.doi.org/10.1590/1982-0194201500035>

Abstract

Objective: To measure the level of hope in cancer patients at the beginning and at the end of chemotherapy treatment and verify the associated factors in the two moments.

Methods: Cross-sectional study with cancer patients undergoing chemotherapy. Data were collected at the beginning of chemotherapy and after three/four months of the treatment, with the application of the Herth Hope Index and a characterization questionnaire. The Meann-Whitney test was used to assess statistical associations at both moments.

Results: The mean score of hope was 35.8 (\pm 6.11) points in the first moment, and 36.1 (\pm 7.12) in the second. Schooling greater than eight years, absence of metastasis, curative or adjuvant treatment and mild pain contributed significantly in increasing the scores.

Conclusion: The level of hope increased at the end of the treatment, but not significantly. Factors influencing this increase were higher schooling, absence of metastases, curative or adjuvant treatment and absence of moderate to strong pain.

Resumo

Objetivo: Mensurar o nível de esperança de vida em pacientes oncológicos no início e no final do tratamento quimioterápico e verificar os fatores associados nos dois momentos.

Métodos: Estudo transversal com pacientes oncológicos em tratamento quimioterápico. Os dados foram coletados no início e após três/quatro meses de quimioterapia, com a aplicação da Escala de Esperança de Herth e um questionário de caracterização. Foi utilizado o teste de *Meann-Whitney* para verificar associações estatísticas nos dois momentos.

Resultados: O escore médio de esperança foi de 35,8 (\pm 6,11) pontos no primeiro momento e, 36,1 (\pm 7,12) no segundo. Escolaridade maior que oito anos, ausência de metástase, tratamento curativo ou adjuvante e dor leve contribuíram significativamente no aumento dos escores.

Conclusão: O nível de esperança aumentou no final do tratamento, mas não significativamente. Os fatores que influenciaram este aumento foram maior escolaridade, ausência de metástases, tratamento curativo ou adjuvante e ausência de dor moderada a forte.

¹Universidade Estadual de Maringá, Maringá, PR, Brazil.

Conflicts of Interest: there are no conflicts of interest to declare.

Introduction

Hope can be defined as a subjective probability of good outcomes,⁽¹⁾ representing the feeling of an optimistic future for men, which allows for the establishment of plans and long-term goals.⁽²⁾ In the face of daily situations, people tend to anchor their hope in issues that are significant to them, either external, such as family, friends or something supernatural; as well as internal, when people deposit their hopes on themselves, thinking about their life and the possibility of personal achievements.⁽³⁾

Levels of hope are being explored in individuals who experience chronic diseases, in order to verify the impact of this feeling in times of hardships and trials, due to its importance in the coping process of ill patients. The feeling of hope has been investigated in patients with Alzheimer's disease,⁽⁴⁾ in patients with cancer in antineoplastic treatment^(5,6) and in caregivers,⁽⁷⁾ and the presence of mean levels of hope was identified.

Given these considerations, there is a need to verify the hope of patients who will begin chemotherapy, since the support of this feeling during therapy can give life to the days of these patients and strengthen their experience, despite the difficulties imposed by the course of the disease and its treatment. Furthermore, being aware of their levels of hope during therapy can expand the possibilities of care to these individuals, because in such moments, hope becomes a feeling capable of making people envision a horizon of life with new perspectives, starting to believe in good times even when a chronic disease like cancer arises in their life, and brings with it the stigma of incurability and a long painful treatment.

Based on the foregoing, the objective of this study was to measure the hope of cancer patients undergoing chemotherapy at the beginning and after three/four months of therapy, and verify the existence of an association between levels of hope and demographic, socioeconomic and clinical characteristics.

Methods

This is a cross-sectional quantitative study, developed at the Center of Oncology of a general hos-

pital located in the northern region of the state of Paraná, southern Brazil. The hospital is public and assists patients with cancer who require chemotherapy or oncologic surgery. According to data provided by the institution, about 230 patients are assisted to undertake chemotherapy every month.

A total of 60 patients with cancer, who started outpatient administration of chemotherapy in the hospital during the month of October 2012, participated in this study. Patients were included in the study according to the following criteria: 18 years of age or older; undertaking the first cycle of chemotherapy and, not having received chemotherapy therapy during previous treatments.

The Brazilian Portuguese version of the Herth Hope Index, which was adapted and validated in 2007, was used to check the levels of hope for patients.⁽⁸⁾ This scale was designed to assess hope with greater ease, in situations where this feeling MAY vary,⁽⁸⁾ being suitable for use among people with chronic diseases. It has 12 statements with responses provided in the Likert scale of four points, ranging from "strongly disagree" to "strongly agree".⁽⁸⁾ The items numbered three and six have reversed scores, for analysis purposes. The final score ranges from 12 to 48 points, and the higher the score, the higher the level of hope.⁽⁸⁾

Semi-structured interviews, conducted during the first and last cycle of chemotherapy, were used to perform data collection. The sample was selected by convenience and included all patients who started chemotherapy during data collection. Demographic, socioeconomic and clinical variables were selected for this study, such as sex, age, marital status, religion, schooling, occupation, income, diagnosis, time since diagnosis, metastasis, previous therapy (radiotherapy and / or surgery) and therapy purpose. The intensity of pain felt by the patients was also verified using the Visual Numeric Scale.⁽⁹⁾

Data were analyzed using the Statistical Package for Social Sciences (SPSS for Windows), version 18.0. To evaluate the normal distribution of data, the Kolmogorov-Smirnov test was used, which did not confirm the normality of the data and, for that reason, the use of non-parametric tests was defined. Testing of internal consistency by Cronbach's alpha

and descriptive data analysis, with calculation of measures of location and dispersion, were also performed. The Mann-Whitney test was used to associate the demographic, socioeconomic and clinical variables and all analyses were considered significant when $p < 0.05$.

The development of this study complied with national and international ethical guidelines for research involving human subjects.

Results

The Herth Hope Index, in this study, achieved adequate internal consistency for the sample in the first and second moments of data collection, with values of 0.90 and 0.86 respectively. These values are considered reliable for correlation between the answers given by the subjects and the questions of the scale.

Regarding the analysis of the Herth Hope Index, the level of hope of the patients presented a mean score of 35.8 points (± 6.11) and a median of 36 points for the first moment and, a mean of 36.1 (± 7.12), with a median of 37 points for the second moment. The total variation obtained by the scale under study was 23-48 points for the first moment

and 22-48 points for the second moment, keeping in mind that the expected range for this scale is 12-48 points.

Furthermore, the total score obtained from the scale remained close to the median score for most patients, 50% had scores between 32 and 40 points in the first moment and 32 and 42 points in the second. In addition, 75% of patients achieved a score equal to or above 32 points in both moments (Figure 1).

Despite the increase in the median value in relation to most of the variables under study, no significant difference was observed in the increase of hope of patients between the two moments evaluated, since the levels found in the two moments, with a median of 35.6 points in the first moment and 37 points in the second, were similar, as showed in figure 1 (p-value 0.63).

Among the 12 items of the Herth Hope Index, the statement “I feel all alone” had the lowest score at the two moments. This statement presents reversed score, for analysis purposes, and it had a mean score of 2.67 (± 1.05) and 2.57 points (± 1.01) for the first and second moments respectively, with concordance of 55% of the participants in both moments. The item “I feel my life has value

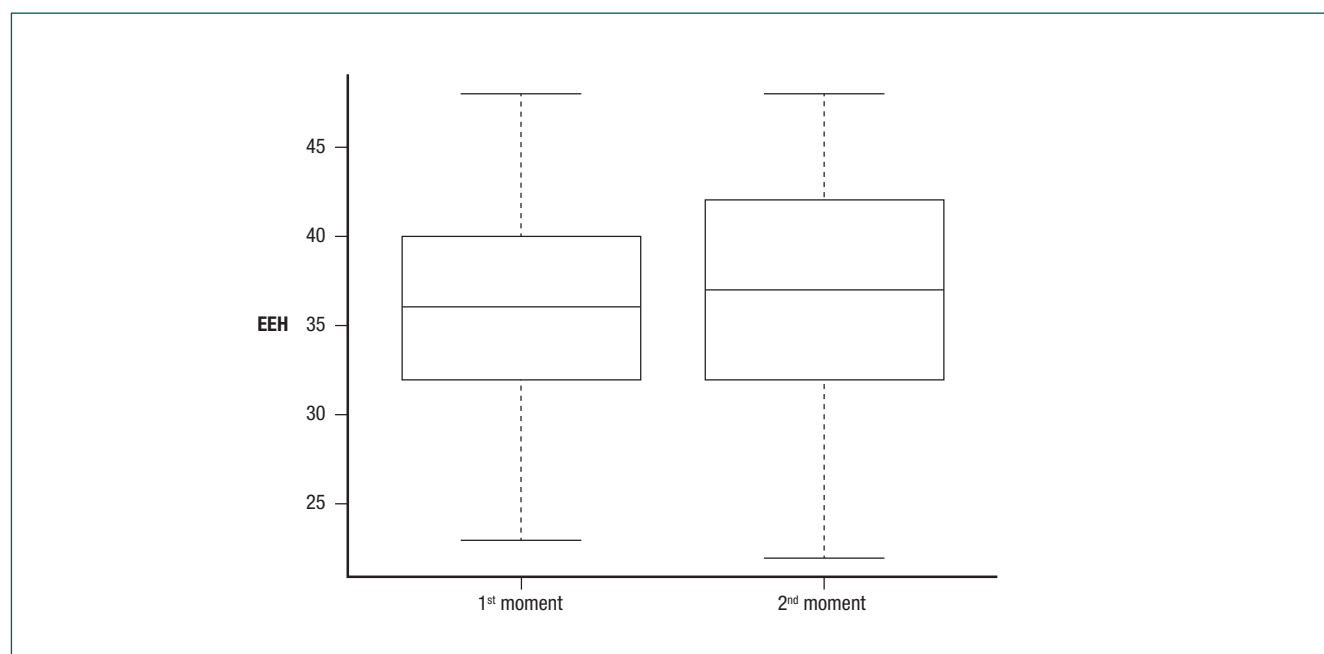


Figure 1. Herth Hope Index at the beginning and after three/four months of chemotherapy (n = 60)

and worth” displayed the highest score at the first moment, with a mean of 3.23 points (± 0.70); whereas at the second moment, the highest score was found for the item “I am able to give and receive caring/love”, with a mean of 3.20 points (± 0.84). A total of 71% and 81% of patients, respectively, agreed with the statements.

The analysis of the profile of the study participants showed that they ranged in age from 18 to 85 years, predominantly in the age group of 60 years or more (56.7%), and female (65%). Emphasis was observed for the Catholic religion (71.7%), for housekeeping occupations (35%), and 61.7% were away from work or retired permanently. Regarding schooling, 38% had up to seven years of education, whereas 10% were illiterate.

The main locations of the tumors were the breasts (19 cases), colon/rectum (9 cases) and lung (7 cases), and the median time of diagnosis was 12 months. A total of 36.6% had done no prior chemotherapy treatment.

Among the demographic and clinical variables studied, the only one that showed a statistically significant association with hope was schooling, and those with more than eight years of education had higher scores, with a median of 39 in the first and second moment. Those with less than eight years of education showed a median of 34 and 36 respectively. Table 1 shows the relationship of the clinical variables of the patients with hope at the beginning and at the end of chemotherapy.

A statistically significant difference was observed between the participants’ levels of hope and the presence of metastasis, in the first and in the second moments, and those with metastases had the lowest scores, with a median of 21 and 28 points. Patients in curative therapy had significantly higher medians of hope in the second moment of the interview, with a median of 40.5 points.

The presence of mild pain was considered a contributing factor in the hopes of patients in both moments, with a median of 37 points. Time of diagnosis greater than six months and prior therapy negatively affected the patients’ hope scores, but without statistical significance.

Table 1. Association of clinical variables with the scores of the Herth Hope Index, at the beginning and after three/four months of chemotherapy (n = 60)

Variables	n(%)	1 st moment		2 nd moment	
		Median	p-value*	Median	p-value*
Time of diagnosis					
≤ 6 months	27(45)	35	0.55	37	0.32
> 6 months	33(55)	36		36	
Previous therapy					
Yes	22(36.6)	34	0.53	34.5	0.24
No	38 (63.3)	36		38.5	
Occurrence of metastases					
Yes	21(35)	33	0.09	28	<0.001
No	39(65)	37		41	
Therapy purpose					
Curative	40(66.6)	37	0.19	40.5	<0.001
Palliative	20(33.3)	33		28	
Pain**					
Mild	21(35)	37	0.03	37	0.03
Moderate to severe	25(41.6)	32		32	

*Mean-Whitney Test; ** 14 people who did not have pain of any intensity were excluded

Discussion

This study, whose objective was to measure the hopes of cancer patients at the beginning and end of chemotherapy, had as limitation the small number of patients studied and also the fact that the treatment was performed in a service that has a differentiated physical structure and high technology equipment, which makes it difficult to generalize the results, as well as to make comparisons with the results of other studies, usually conducted in institutions with high demand, scrap equipment and poor physical structure.

Nevertheless, the results found in this study were similar to those of other realities studied with patients affected by cancer.^(5,6) It is important to stress that these results trigger reflection on the characteristics of the care provided to patients with cancer and the need for implementing care actions that emphasize the interpersonal and subjective aspect of care in order to promote a sense of hope among these patients.

Accordingly, nurses, as the professionals closest to patients with cancer during their treatment, must be alert to the wishes and feelings of these individuals, so that the characteristics that drain their hopes can be worked continuously, through active listening, offering detailed information and openness to receive complaints, enabling them to participate

consistently in the therapeutic process. Thus, the identification of the levels of hope of patients may offer benefits for nurses who plan the care, with a view to more appropriate actions to encourage hope and to reduce the impact of the disease on daily life of patients with cancer.

In this study, the levels of hope found (median of 36 and 37 points respectively in the first and second moments) were similar to those of studies conducted internationally, such as in Italy, where patients on antineoplastic treatment had a median score of 36.8 points on the same scale⁽⁵⁾ and in Poland, where patients with cancer had levels of 37.5 of hope.⁽⁶⁾

The dimension with the lowest score on the Herth Hope Index was related to the patients' loneliness, which presented scores of hope inferior to the other domains of the scale. This result underscores the need to consider that, for improvement of levels of hope and consequent prospect of future health of patients undergoing chemotherapy, it is important that health professionals pay attention to the "feeling alone" and develop care plans that reduce this feeling. Support networks contribute to coping with cancer, and such support may come from other family members, as well as relations of friendship in the community,⁽¹⁰⁾ including the social, economic and functional and/or emotional spheres.

Regarding the items that were best rated in the scale, in the first moment the statement "I feel my life has value and worth" and in the second, "I am able to give and receive caring/love" demonstrate that cancer patients are able to believe in their own value, regardless of the limitations that chemotherapy may impose, besides giving value to the present and sharing tender feelings with others. In this sense, hope is an important feeling during the confrontation with the disease process and individual well-being,⁽¹⁾ being crucial to maintain feelings of usefulness and affection for those around. For these patients, the achievement of the desired levels of hope is founded on a desire to live and to return to a healthy life, besides the desire to maintain ties of affection and attention, especially with the closest people.

Furthermore, this study found significantly different levels of hope in relation to schooling,

with higher expression of hope among those with a greater level of education. This result suggests that individuals with higher schooling have a greater understanding of the disease and therefore may face it more positively. This is also because they have greater knowledge of the different stages of the treatment, which allows them to deal differently with the victories and losses that accompany the therapy. Considering this context, it is inferred that information allows patients to gain knowledge about new technologies and innovations in anticancer treatment that may lead to increased survival rate. This in turn triggers optimism by those who experience this condition.⁽¹¹⁾

A negative correlation between the levels of hope and metastasis was also noted. The diagnosis of metastasis generates a feeling of helplessness against the disease, causing the patient to reflect on the existence of an uncertain future. Therefore hope, which could be a propellant in achieving better quality of life, whether regarding cure or preparation for a dignified death, remains in significantly low levels, complicating the process of coping among those experiencing metastasis. Expressions of uncertainty about the treatment being carried out, about the spread of the disease and even about death arise.⁽¹²⁾

Regarding the purpose of the treatment, significant differences were found between those with curative and palliative therapy, especially in the second moment, which shows that fear and hopelessness dominate the feelings of those who go through an anticancer treatment. Health professionals, especially those working in this area should try to accept and deal with this range of feelings, based on realistic perspectives about the treatment and prognosis, encouraging patients to maintain hope whenever possible.⁽¹³⁾

Emphasis is also given to pain intensity, as the findings of this study show that patients with lesser degrees of pain have greater hope, a similar result to the findings of another study, using a different scale, conducted with patients suffering from lung cancer.⁽¹⁴⁾ Despite such comparisons, the authors of a study conducted in Canada, with patients with newly diagnosed cancer, affirm that the findings in

the literature cannot provide a clear relationship when it comes to pain and maintaining hope, and more research in this direction is needed.⁽¹⁵⁾ It is likely that the correlation between pain and hope identified in this study resulted from this symptom in cancer patients as an important factor of suffering and the incapacities of these patients, including causing them to lose the ability to perform simple tasks and even leading to losses in the spiritual, social and emotional contexts, which become neglected during physical suffering.^(10,11)

Therefore, the healthcare team must be prepared to act upon the reduction of symptoms, the maintenance of quality of life and the conditions of communication to the cancer patient, without leaving them at the mercy of suffering.⁽¹⁶⁾ This is explained by the fact that the hope of these patients is sustained by the possibilities of improvement in symptoms and cure of the disease, which can happen when undergoing chemotherapy, despite the side effects that may arise. As such, the difficulties experienced during the treatment were not sufficient to reduce the hope of these individuals, and by contrast, made it grow further.

Conclusion

Cancer patients undergoing chemotherapy have demonstrated high levels of hope at the beginning and the end of treatment, and the side effects and difficulties experienced were not enough to reduce the hope of these individuals. The level of hope increased at the end of treatment, but not significantly, and, factors influencing this increase were higher schooling, absence of metastases, curative or adjuvant treatment and absence of moderate to strong pain.

Acknowledgments

The authors thank the Coordination of Improvement of Higher Education Personnel (CAPES, as per its acronym in Portuguese), for providing a scholarship for the master's and doctoral degree of Julia Wakiuchi and a scholarship for the master's degree of Joisy Aparecida Marchi.

Collaborations

Wakiuchi J Marchi and JA contributed to the conception, design, analysis and interpretation of data, drafting of the article, critical revision of its intellectual content and final approval of the version to be published. Norvila LS contributed to the conception, design, data analysis and writing of the article. Marcon SS contributed to the conception, design, interpretation of data, critical revision of the relevant intellectual content and final approval of the version to be published, and Sales CA contributed to the design, critical revision of the important intellectual content and final approval of the version to be published.

References

1. Jafari E, Najafi M, Sohrabi F, Dehshiri GR, Soleymani E, Heshmati R. Life satisfaction, spirituality well-being and hope in cancer patients. *Procedia Soc Behav Sci.* 2010; 5:1362-6.
2. Chang EC, Yu EA, Hirsch JK. On the confluence of optimism and hope on depressive symptoms in primary care patients: Does doubling up on bonum futurum Proffer any added benefits? *J Positive Psychol.* 2013; 8(5):404-11.
3. Du H, King RB. Placing hope in self and others: Exploring the relationships among self-construals, locus of hope, and adjustment. *Persn Individ Dif.* 2013; 54(3):332-37.
4. Duggleby WD, Swindle J, Peacock S, Ghosh S. A mixed study of hope, transitions, and quality of life in family caregivers of persons with Alzheimer's disease. *BCM Geriatr.* 2011; 11(88):1-12.
5. Ripamonti CI, Buonaccorso L, Maruelli A, Bandieri E, Boldini S, Pessi MA, et al. Hope Herth Index (HHI): a validation study in Italian patients with solid and hematological malignancies on active cancer treatment. *Tumori.* 2012; 98(3):385-92.
6. Wnuk M, Marcinkowski JT, Fobair P. The relationship of purpose in life and hope in shaping happiness among patients with cancer in Poland. *J Psychosoc Oncol.* 2012; 30(4):461-83.
7. Lohne V, Miaskowski C, Rustoen T. The relationship between hope and caregiver strain in family caregivers of patients with advanced cancer. *Cancer Nurs.* 2012; 35(2):99-105.
8. Sartore AC, Grossi SA. [Herth Hope Index - Instrument adapted and validated to Portuguese]. *Esc Enferm USP.* 2008; 42(2):227-32. Portuguese.
9. Hawker GA, Mian S, Kendzerska T, French M. Measures of Adult Pain: Visual Analog Scale for Pain (VAS Pain), Numeric Rating Scale for Pain (NRS Pain), McGill Pain Questionnaire (MPQ), Short-Form McGill Pain Questionnaire (SF-MPQ), Chronic Pain Grade Scale (CPGS), Short Form-36 Bodily Pain Scale (SF-36 BPS), and Measure of Intermittent and Constant Osteoarthritis Pain (ICOAP). *Arthritis Care Res.* 2011; 63(S11):240-52.
10. Hasson-Ohayon I, Goldzweig G, Braun M, Galinsky D. Women with advanced breast cancer and their spouses: diversity of support and

- psychological distress. *Psycho-oncol.* 2010;19(11):1195-204.
11. Silva CB, Albuquerque V, Leite J. Qualidade de vida em portadoras de neoplasia mamaria submetidas a tratamento quimioterápico. *Rev Bras Cancerol.* 2010; 56(2):227-36.
 12. Grimsbo GH, Ruland CM, Finset A. Cancer patients' expressions of emotional cues and concerns and oncology nurses' responses, in an online patient-nurse communication service. *Patient Educ Couns.* 2012; 88(1):36-43.
 13. Sjoquist KM, Friedlander ML, O'Connell RL, Voysey M, King MT, Stockler MR, et al. Hope, quality of life, and benefit from treatment in women having chemotherapy for platinum-resistant/refractory recurrent ovarian cancer: The Gynecologic Cancer Intergroup Symptom Benefit Study. *Oncologist.* 2013; 18(11):1221-8.
 14. Berendes D, Keefe FJ, Somers TJ, Kothadia SM, Porter LS, Cheavens JS. Hope in the context of lung cancer: relationships of hope to symptoms and psychological distress. *J Pain Symptom Manage.* 2010; 40(2):174-82.
 15. Duggleby W, Ghosh S, Cooper D, Dwemychuk L. Hope in newly diagnosed cancer patients. *J Pain Symptom Manage.* 2013; 16(5):661-70.
 16. Rodrigues IG, Zago MMF. Morte e o morrer: maior desafio de uma equipe de cuidados paliativos. *Cienc Cuid Saúde.* 2012; 11(Supl):31-8.