

KNOWLEDGE OF A NURSING TEAM ABOUT CHEMOTHERAPY ADVERSE EFFECTS

Thais de Oliveira Gozzo*

Sarah Gomes de Souza**

Aline Maria Bonini Moysés***

Rosemeire Aparecida de Oliveira de Carvalho****

Simone Mara de Araújo Ferreira*****

ABSTRACT

This study aimed to identify the knowledge of the professional nursing team about the adverse events resulting from chemotherapy treatment. Descriptive cross-sectional study conducted between March and May 2013 with 28 professional nursing team working at the outpatient clinic, the inpatient unit and Chemotherapy Center of a university hospital. To collected data were used an instrument developed by the authors and validated by expertise nurses in this area. Among the participants, 82,1 % did not have any expertise in the area of oncology. The professionals had difficulties in classifying adverse events in relation to time of onset, and their management. Reported adverse events coincide with the most evident in clinical practice. Given the complexity of chemotherapy becomes the indisputable need for training of health professionals working in the area when considering a care in oncology quality.

Keywords: Oncologic Nursing. Drug therapy. Education, nursing.

INTRODUCTION

Chemotherapy is an advance in the cure and control of cancer, being responsible for increasing the expectation and quality of life of patients. However, this treatment causes numerous adverse events, defined as any unfavorable symptom, sign or disease, including abnormal laboratory findings, associated with the use of treatment or medical procedures, even if temporary⁽¹⁾.

Among the adverse events caused by chemotherapy nausea, vomiting, alopecia, mucositis, febrile neutropenia, reproductive dysfunction and emotional changes stand out, all of which can contribute to the discontinuation of the treatment. In addition to the biological and technical aspects, the use of chemotherapy involves appropriate management of adverse events and, in this context, the nursing team plays a key role in the planning, implementation and evaluation of the individuals in their

integrality⁽²⁾.

It is the nursing team that guides the patient regarding the goals of the treatment, the possible toxicity and its proper management, stimulating self-care and emotional balance⁽¹⁾. To this end, the nursing team that provides care to cancer patients must be constantly updated with respect to new technologies in order to develop the care plan, emphasizing the evaluation and control of the adverse events that may be experienced by patients during the chemotherapy⁽³⁾.

It should be noted that appropriate guidance provided by the nursing staff to patients and families regarding the chemotherapy adverse events and their management is perceived as important to maintain the well-being and contributes to qualify the care provided⁽⁴⁾. When the team is adequately present during treatment, it is possible to identify the needs, as well as provide clarification of possible questions related to the treatment itself and events that result from it.

*Nurse. PhD and Professor, faculty member of the Maternal Infant and Public Health departments, Ribeirão Preto Nursing School, University of São Paulo. Ribeirão Preto- São Paulo, Brazil. E-mail: thaisog@eerp.usp.br.

**Nurse. Resident of the Integrated Multiprofessional Residency Program in health, Medical School of the ABC region. Santo André- São Paulo, Brazil. E-mail: sarah@gmail.com

***Nurse. Master by the Public Health Graduate Program, Ribeirão Preto Nursing School, University of São Paulo. Ribeirão Preto- São Paulo, Brazil E-mail: alinebonini@bol.com.br

****Nurse. Master by the Public Health Graduate Program, Ribeirão Preto Nursing School, University of São Paulo. Ribeirão Preto- São Paulo, Brazil. E-mail: rosemeireoliveira@ig.com.br

*****Nurse. PhD's student in the Public Health Graduate Program, Ribeirão Preto Nursing School, University of São Paulo. Ribeirão Preto- São Paulo, Brazil. E-mail: sisicg@yahoo.com.br

However, for this prompt intervention, the nursing team needs to perfect their communication skills and their knowledge of the theme, as the team's knowledge related to chemotherapy, adverse events and their appropriate management promotes the health education of cancer patients and their families⁽⁵⁾. This, in turn, constitutes one of the strategies to encourage and develop the potential of patients and family members and instrumentalize them to take, as subjects, the actions aimed at dealing with problems arising from this treatment.

Considering the need for actions directed toward the management of adverse events, this study aimed to identify the knowledge of the professionals of the nursing team regarding adverse events resulting from chemotherapy.

METHODOLOGY

This descriptive, cross-sectional study was performed at the Clinical Hospital of Ribeirão Preto Medical School, University of São Paulo (HCFMRP/USP), University Campus, in the Gynecology Ward, in the Mastology and Oncogynecology Outpatient Clinics and in the Chemotherapy Center.

In the three units mentioned above that assist women with gynecological and breast cancer, there are 79 nursing professionals, these being 62 auxiliary nurses and nursing technicians and 17 registered nurses. To be included in this study the nursing team professionals of these services met the following inclusion criteria: to be over 19 years of age and to work directly with women with breast or gynecological cancer during the chemotherapeutic treatment. Professionals that were on leave or vacation during the data collection period were excluded.

The data collection period was from March to May 2013. Data were collected using a questionnaire developed by the authors and validated by three nurses working in the oncology area, who had experience with chemotherapy. This questionnaire consisted of questions for the sociodemographic characterization of the participating nursing professional, such as age, education, professional category and length of time working in oncology, as well as open and closed questions regarding their knowledge of adverse

events, guidance for their prevention, management and reporting of these events.

The nursing team professionals received the questionnaire, which could be answered in the workplace in a private room or at home at the participant's discretion. Next, the day and time was set for one of the authors to collect the completed questionnaires. The data obtained were organized as a Microsoft Excel spreadsheet and the study variables were analyzed descriptively.

The research project was submitted to the Human Research Ethics Committee of the Ribeirão Preto College of Nursing-USP and approved under authorization No. 201.015/2013, in compliance with Resolution CNS 466/2012.

RESULTS AND DISCUSSION

Of the 79 nursing team professionals that worked in the sectors surveyed, 25 were excluded due to not working directly with these women or being on vacation/sick leave during the data collection period and 26 refused to participate. Therefore the sample was composed of 28 professionals.

All participants were female, aged between 29 and 54 years, with a mean age of 39.4 years and a standard deviation of 8.2 years, and a mean of 9.3 years and standard deviation of 6.6 years working in the oncology area. The majority (53.6%) of the participants were auxiliary nurses, 82.1% reported not having completed any specialization course in oncology, and 60.7% reported receiving training related to chemotherapy patient care (Table 1).

The training of nursing professionals related to integral care for patients undergoing chemotherapeutic treatment is extremely important in cancer care. However, the reality of the institution investigated in this study contradicts this recommendation. The results reveal that 82.1% of the professionals interviewed did not have a specialization or training in oncology and 26.9% reported not having had any kind of training related to care for patients undergoing chemotherapy. This situation is aggravated when the recommendations of initial and ongoing training

that should be provided to all professionals involved with chemotherapy are considered^(5,6).

Table 1. Distribution of participants according to age, professional category, oncology specialization, training and length of time working in the area (n=28). Ribeirão Preto, 2013.

Variable	Number	%
Age		
26-30	3	11.1
31-40	13	48.1
41-50	7	25.9
51-54	4	14.8
Did not respond	1	3.6
Professional category		
Registered Nurse	8	29.6
Auxiliary nurse	15	55.5
Nursing technician	4	14.8
Did not respond	1	3.6
Oncology specialization		
Yes	5	17.8
No	23	82.1
Oncology Training		
Yes	19	67.8
No	8	28.6
Did not respond	1	3.6
Time working in oncology		
Up to 1 year	3	11.1
2 - 10 years	12	42.8
11- 20 years	11	39.3
21- 26 years	2	7.1

Nursing has based its work on the routines established by the services, many of these being intuitive and without systematization. These actions can compromise the quality of care due to poor planning, as well as devaluing the work of the nursing team⁽⁷⁾.

Regarding the knowledge of the adverse events related to chemotherapy, 100% of the participants reported this knowledge as being important for the nursing care. When they responded to the question about which adverse events they knew, the responses were extremely varied, mentioning signs and symptoms related to the adverse events themselves. It was observed that the most cited

adverse events were related to the day-to-day experiences, with vomiting cited in 100% of the questionnaires. The adverse events mentioned by the interviewees were classified according to the Common Terminology Criteria for Adverse Events (CTCAE) v 4.0⁽⁸⁾ and are presented in Table 2.

Table 2. Chemotherapy Adverse events cited by the participants and classified according to the Common Terminology Criteria for Adverse Events (n=28). Ribeirão Preto, 2013.

Adverse events*	Number	%
Gastrointestinal		
Vomiting	28	100
Nausea	26	92.8
Mucositis	16	57.1
Anorexia	16	57.1
Diarrhea	14	50.0
Others	9	32.1
Dermatological		
Alopecia	24	85.7
Extravasation	21	75.0
Hyperpigmentation of the skin/of the venous pathway	11	39.3
Others	10	35.7
Allergic/ Immunological		
Hypersensitivity reaction	15	53.6
Fever	11	39.3
Hematological		
Neutropenia/febrile neutropenia	21	75.0
Anemia	8	28.6
Others	8	28.6
Cardiovascular		
Tachycardia	4	14.3
Hypertension	3	10.7
Pulmonary		
Dyspnoea	5	17.8
Psychiatric alterations		
Mood swings - Depression/Anxiety	5	17.8
Others	3	3.6
Auditory		
Hearing problems	1	3.6
Pain		
Pain	15	53.6
Infection		

Infections	5	17.5
Renal/ Genitourinary		
Renal failure/renal function impairment	4	14.3
Constitutional		
Fatigue	11	39.3
Weight loss/gain	4	14.3

*Each participant could cite more than one adverse event.

The participants were also questioned about the length of time between the administration of chemotherapy and the appearance of adverse events. This time was classified as

early (those that occur at the time of the chemotherapy infusion); **immediate** (those occurring between the seventh and the 21st day after the chemotherapy infusion) and **late** (those that occur months after the chemotherapy infusion). The Common Terminology Criteria for Adverse Events⁽⁸⁾ was also used for this classification. Table 3 presents this classification and also shows the distribution of the correct and incorrect responses given by the respondents regarding the time of the onset of adverse events.

Table 3. Analysis of the classification of adverse events made by the respondents, considering the time of appearance (early, immediate and late) and the evaluation of the responses (n=28). Ribeirão Preto, 2013.

Adverse events*	Early		Correct	Immediate		Correct	Late		Correct
	n	%		n	%		n	%	
Hematological									
Neutropenia				9	32.1	Yes	5	17	No
Febrile neutropenia							1	3	No
Anemia				8	28.6	Yes	2	7	No
Leukopenia				4	14.3	Yes			
Thrombocytopenia				1	3.6	Yes			
Gastrointestinal									
Nausea	14	50.0	Yes	17	60.7	Yes	5	17	Yes
Vomiting	14	50.0	Yes	16	57.1	Yes	6	21	Yes
Anorexia	1	3.6	No	10	35.7	Yes	4	14	Yes
Diarrhea/Constipation				9	32.1	Yes	6	21	Yes
Mucositis				5	17.8	Yes	5	17	Yes
Change in taste				1	3.6	Yes	4	14	Yes
Cardiovascular									
Tachycardia	4	14.3	Yes						
Hypertension	3	10.7	Yes						
Pulmonary									
Respiratory failure				1	3.6	Yes			
Neurological									
Somnolence	1	3.6	No						
Dizziness	1	3.6	Yes						
Mood changes				2	7.1	Yes	2	7	Yes
Tremors	1	3.6	Yes				1	3	No
Renal toxicity									
Impaired renal function				1	3.6	Yes			
Dermatological									
Extravasation	19	67.8	Yes	2	7.1	No	1	3	No
Pruritus	2	7.1	Yes						
Hyperemia	2	7.1	Yes	1	3.6	Yes			
Alopecia				13	46.4	No	5	17	Yes

Loss of nails							1	3.	Yes
Hyperpigmentation				1	3.6	No	3	10	Yes
Foot/Hand syndrome							1	3.	Yes
Phlebitis	1	3.6	Yes						
Allergic/immunological									
Allergic reactions	14	50.0	Yes	1	3.6	Yes	1	3.	No
Fever	2	7.1	Yes	6	21.4	Yes	3	10	Yes
Constitutional									
Fatigue	2	7.1	No	5	17.8	Yes	5	17	Yes
Weight loss/gain							3	10	Yes
Pain									
Headache	1	3.6	Yes						
Pain	3	10.7	Yes	4	14.3	Yes			
Myalgia							1	3.	Yes
No response	1	3.6					7	25	

*Each participant could cite more than one adverse event.

Table 4 presents the knowledge of the interviewees related to the management of adverse events resulting from chemotherapy. When the participants answered the question “how should the management of the adverse events cited be performed?” many responses were “follow the protocol of the unit”, “inform

the physician”, “perform treatment” or “inform the emergency unit”. These phrases were classified as **no management cited**. A lack of knowledge of the participants regarding the adequate pharmacological or non-pharmacological management of the adverse events was observed.

Table 4. Knowledge of the respondents regarding the management of the adverse events cited in the questionnaire. Ribeirão Preto, 2013 (n=28).

Adverse events	Pharmacological management		Non-pharmacological management		Clinical evaluation		No management mentioned		Did not respond	
	n	%	n	%	n	%	n	%	n	%
Nausea and vomiting	27	96.4	13	46.4	-	-	-	-	-	-
Alopecia	-	-	25	89.3	-	-	1	3.6	2	7.1
Mucositis	22	78.6	17	60.7	1	3.6	1	3.6	-	-
Anemia	7	25.0	22	78.6	8	28.6	-	-	1	3.6
Neutropenia	6	21.4	17	60.7	9	32.1	2	7.1	2	7.1
Fatigue	1	3.6	23	82.1	-	-	-	-	5	17.8
Fever	15	53.6	7	25.0	6	21.4	8	28.6	1	3.6
Extravasation	4	14.3	5	17.8	2	7.1	19	67.8	1	3.6

*Each participant could cite more than one management.

The professionals expressed doubts regarding the management of the adverse events resulting from chemotherapy. The need for specific training in order to capacitate the professionals that work in oncology is mentioned in a study, the results of which indicate a lack of knowledge of nursing professionals regarding extravasation of anticancer drugs⁽⁹⁾.

In addition to knowing the adverse events that may occur during chemotherapy, the team

must also have knowledge regarding early intervention and the reduction of risks arising from these events. In this study it was observed that 92.8% of the professionals interviewed did not know how to describe the adequate management of adverse events, clinical evaluation actions or pharmacological/non-pharmacological treatment.

Integral care for cancer patients requires joint efforts from the entire health system, from the

training of professionals who provide direct patient care for the timely identification of complications resulting from the cancer treatment to the infrastructure of the service that they will use⁽¹⁰⁾. Associated with this statement, the COFEN Resolution No. 210/1998 states that it is the responsibility of the nurse to perform the planning, organization, supervision, implementation and evaluation of nursing activities for patients undergoing chemotherapeutic antineoplastic treatment, and to provide integral care to the patients and their family members⁽¹¹⁾.

In the nursing area, scientific and technological innovations require nurses to reformulate their techniques and knowledge according to the demands and requirements of the care practice. For this to take place, the specialization of these professionals is important, as is the production and the use of valid knowledge that fulfills the needs observed⁽¹²⁾. In addition, it is important that the institution understands the need for constant training and guidance for its professionals, especially with regard to the management of chemotherapy adverse events.

According to 53.6% of the respondents, adverse events were only registered in the nursing evolution report contained in the medical record of the patient, 7.4% said that in the sector in which they worked the reporting of adverse events was not carried out and 39.3% said that there was no specific instrument in their units. Only 25% of the respondents reported having a specific instrument to evaluate adverse effects, however none could say what this was. It was noted that the reporting of these events was not performed in a systematic way, being made in the nursing evolution report. Furthermore, a lack of standardization of the information recorded in the different units studied was noted. The lack of standardization can impair the monitoring of the patients during their treatment, as the majority of them pass through three locations during the breast cancer treatment.

The careful reporting of adverse events allows a true diagnosis of the reality and, based on these indicators, it is possible to

reflect on actions and propose changes in nursing care. A study analyzing the knowledge of the nursing team, working in an oncology ward of a hospital, related to prevention, early identification and actions in the case of intravenous chemotherapeutic extravasation also mentioned the absence of specific forms to report chemotherapy adverse events⁽¹³⁾.

It should be highlighted that each adverse event occurs with a degree of severity and that this determines the actions to be taken. It should be highlighted that the nurse should report information relevant to the nursing care, develop operational technical manuals for the nursing staff and provide health education for the patients and family members⁽¹⁷⁾. Added to this is the importance of the voluntary notification of adverse reactions to the monitoring centers, as through them causality studies are conducted, allowing appropriate actions to be taken by the agencies responsible⁽¹⁵⁾.

All the participants reported that they provide guidance to patients regarding adverse events and their management, with 100% of the guidance given verbally, in an unsystematic way. Considering the moment of treatment in which these guidelines are presented, 40% said they did this throughout the treatment; 30% gave guidance only at the beginning of the treatment; and 10% reported providing the guidance at the time of hospital discharge.

For each adverse event, it is necessary for patients to be guided and encouraged to consciously participate in the decision-making related to self-care measures. Furthermore, appropriate information helps patients to become co-responsible in each decision taken in relation to their treatment. The general guidance provided to the client involves the daily living activities, such as rest, physical effort, oral and body hygiene, fluid intake, balanced and fractional diet, the use of prescribed medication faced with nausea and vomiting, the use of products for skin hydration and protection, scalp protection in cases of alopecia, and avoiding crowds and contact with people with infectious diseases in

order to minimize the risk of infection, among other aspects⁽¹⁶⁾.

In addition to verbal information, the oncology services could distribute printed materials based on the specific scientific literature, professional experience and the observation of local needs. This type of material facilitates the action of the nurse and contributes to self-care, ensuring the continuity of the care at home⁽¹⁷⁾.

Nursing actions in the care of cancer patients should be integral, participatory and resolute. The nursing team professionals should possess technical and scientific knowledge and be skilled in interpersonal relationships with patients and families, which favors health actions and educational practices⁽¹⁸⁾. The COFEN resolution (No. 210/1998) states that it is the responsibility of the nurse to provide conditions for the improvement of the nursing team working in the area, through courses, participation and integration of the multidisciplinary team⁽¹¹⁾.

Given the above, we return to the educational function of professional nurses in the cancer treatment process, through which the professional transmits information and clarifies doubts and myths about chemotherapy. This favors the creation of a bond, transmits security, provides the quality of care and decreases the impact generated by this situation⁽¹⁹⁾.

Benefits of systematic and individualized oncology care can be considered from the experience report of an extension project developed by the Oncology sector of the Hospital of the Federal University of Uberlândia for Nursing undergraduate course students together with women diagnosed with breast cancer undergoing chemotherapy. The results revealed a high rate of adherence, improvements in the quality of life of patients

and decreases in side effects and the number of hospitalizations due to complications caused by the chemotherapy⁽¹⁹⁾.

Oncology is an area that presents many challenges and a specialty that changes every day with the emergence of new technologies. This complexity, coupled with the increased incidence of cancer, reveals the urgent need for professionals specialized in the area, as the nurse has the responsibility to monitor the development of oncology, considering that this improvement will allow better care for cancer patients⁽²⁰⁾. To this end, the standardization of tasks and information through care protocols constitutes a strategy to establish a standard of conduct.

CONCLUSION

Given the complexity of chemotherapy and the consequences resulting from the adverse events related to this, the need for training and specialization of health professionals working in the area becomes indisputable when considering a quality practice in oncology care.

Considering the practice of the nursing team, both the guidance provided to patients and the interventions performed when presented with the occurrence of adverse events must be supported by scientific knowledge. From this perspective, the institution needs to encourage and invest in the training of its professionals.

Changes in institutional dynamics, such as the use of operational protocols and the adoption of specific forms for reporting adverse event, also constitute strategies to improve the care for the cancer patients of this institution.

CONHECIMENTO DA EQUIPE DE ENFERMAGEM ACERCA DE EVENTOS ADVERSOS DO TRATAMENTO QUIMIOTERÁPICO

RESUMO

Este estudo teve como objetivo identificar o conhecimento dos profissionais da equipe de enfermagem acerca dos eventos adversos decorrentes do tratamento quimioterápico. Estudo descritivo e transversal realizado entre março e maio de 2013 com 28 profissionais da equipe de enfermagem que trabalham no Ambulatório, na Unidade de Internação e na Central de Quimioterapia de um hospital universitário. Para a coleta dos dados foi utilizado um instrumento elaborado pelas autoras e validado por enfermeiras especialistas na área. Entre os

participantes, 82,1% não possuem nenhum tipo de especialização na área de oncologia. As profissionais apresentaram dificuldades em classificar os eventos adversos em relação ao tempo de aparecimento, bem como ao manejo dos mesmos. Os eventos adversos relatados coincidem com os mais evidenciados na prática clínica. Diante da complexidade do tratamento quimioterápico, torna-se indiscutível a necessidade de capacitação dos profissionais de saúde que atuam na área quando consideramos uma prática assistencial em oncologia de qualidade.

Palavras-chave: Enfermagem oncológica. Quimioterapia. Educação em enfermagem.

CONOCIMIENTO DEL EQUIPO DE ENFERMERÍA SOBRE LOS ACONTECIMIENTOS ADVERSOS DEL TRATAMIENTO QUIMIOTERÁPICO

RESUMEN

Este estudio tuvo como objetivo identificar el conocimiento de los profesionales del equipo de enfermería acerca de los efectos adversos resultantes del tratamiento de quimioterapia. Estudio descriptivo y transversal realizado entre marzo y mayo de 2013, con 28 profesionales del equipo de enfermería que trabajan en el Ambulatorio, en la Unidad de hospitalización y en el Centro de Quimioterapia de un hospital universitario. Para la recopilación de los datos se utilizó un instrumento desarrollado por los autores y validado por enfermeras expertas en el área. Entre los participantes, el 82,1% no tenía ningún tipo de especialización en el área de la oncología. Los profesionales tuvieron dificultades para clasificar los efectos adversos con relación al tiempo de aparición, así como su manejo. Los efectos adversos informados coinciden con los más evidenciados en la práctica clínica. Delante de la complejidad del tratamiento de la quimioterapia, se vuelve indiscutible la necesidad de capacitación de los profesionales de la salud que trabajan en el área cuando consideramos una práctica del cuidado en oncología de calidad.

Palabras clave: Enfermería oncológica. Quimioterapia. Educación en enfermería.

REFERENCES

1. Guimarães AGC, Anjos ACY. Caracterização sociodemográfica e avaliação da qualidade de vida em mulheres com câncer de mama em tratamento quimioterápico adjuvante. *Rev Bras Cancerol.* 2012; 58(4):581-92.
2. Salimena AMO, Martins BR, Melo MCSC, Bara, VMF. Como mulheres submetidas à quimioterapia antineoplásica percebem a assistência de enfermagem. *Rev Bras Cancerol.* 2010; 56(3):331-40.
3. Fontes CAS, Alvim NAT. Human relations in nursing care towards cancer patients submitted to antineoplastic chemotherapy. *Acta Paul Enferm.* 2008; 21(1):77-83.
4. Vicenzi A, Schwartz E, Cecagno D, Viegas AC, Santos BP, Lima JF. Cuidado integral de enfermagem ao paciente oncológico e à família. *Rev Enferm UFSM.* 2013; 3(3):409-17.
5. Sales CA, Grossi ACM, Almeida CSL, Silva JDD, Marcon SS. Cuidado de enfermagem oncológico na ótica do cuidador familiar no contexto hospitalar. *Acta Paul Enferm.* 2012; 25(5):736-42.
6. Brasil. Ministério da Saúde. Agência Nacional de Vigilância Sanitária, Resolução RDC nº 220, de 21 de setembro de 2004. Brasília, DF: Ministério da Saúde; 2003.
7. Andrade JS, Vieira MJ. Prática assistencial de enfermagem: problemas, perspectivas e necessidade de sistematização. *Rev Bras Enferm.* 2005;58(3):261-5.
8. National Cancer Institute. Common Terminology Criteria for Adverse Events (CTCAE) Version 4.0. 2010. [acesso em: 22 jan. 2014] Disponível em: http://evs.nci.nih.gov/ftp1/CTCAE/CTCAE_4.03_2010-06-14_QuickReference_8.5x11.pdf.
9. Schneider F, Pedrolo E. Extravasamento de drogas antineoplásicas: avaliação do conhecimento da equipe de enfermagem. *REME: Rev Min Enferm.* 2011; 15(4):522-9.
10. Nascimento TG, Andrade M, Oliveira RA, Almeida AM, Gozzo TO. Neutropenia: occurrence and management in women with breast cancer receiving chemotherapy. *Rev Latino-Am Enfermagem.* 2014 [acesso em: 12 jan. 2015];1; 22(2):301-8. Disponível em: <http://dx.doi.org/10.1590/0104-1169.3305.2416>.
11. São Paulo. Conselho Regional de Enfermagem. Resolução COFEN Nº 210/1998. Dispõe sobre a atuação dos profissionais de Enfermagem que trabalham com quimioterápico antineoplásicos. São Paulo: Conselho Regional de Enfermagem; 2006.
12. Correia JN, Albach LSP, Albach CA. Extravasamento de quimioterápicos: conhecimentos da equipe de enfermagem. *Rev Cienc Saude;* 2011; 4(1):22-31.
13. Brasil. Agência Nacional de Vigilância Sanitária. Sociedade Brasileira de Farmacêuticos em Oncologia (BR). Guia para notificação de reações adversas em oncologia. 2ª ed. São Paulo; 2011. Conectfarma Publicações Científicas.
14. Moreira MC, Carvalho V, Silva MM, Sanhudo NF, Filgueira MB. Produção de conhecimento na enfermagem em oncologia: contribuição da escola de enfermagem Anna Nery. *Esc Anna Nery Rev Enferm.* 2010;14(3):575-84.
15. Henriques MCL, Rodrigues DP, Gonçalves LLC, Almeida AM, Santos AHS, Abud ACF, et al. Autocuidado: a prática de mulheres com câncer de mama submetidas a quimioterapia. *Rev Enferm UERJ.* 2010; 18(4):638-43.
16. Salles PS, Castro RCB. Validação de material informativo a pacientes em tratamento quimioterápico e aos seus familiares. *Rev Esc Enferm USP.* 2010; 44(1):182-9.
17. Klüser SR, Terra MG, Noal HC, Lacchini AJB, Padoin SMM. Vivência de uma equipe de enfermagem acerca do

cuidado aos pacientes com câncer. Rev Rene. 2011; 12(1):166-72.

18. Burille A, Antonacci MH, Soares, LC, Santana MG, Schwartz, E. Manejo e enfrentamento dos efeitos adversos pelos clientes em tratamento quimioterápico. Ciênc Cuid Saúde. 2008; 7 (suplemento 2).

19. Anjos ACY, Magnabosco P, Borges DO, Campos CS. Sistematização da assistência de enfermagem ao paciente em tratamento quimioterápico antineoplásico: relato de experiência. Em extensão. 2011; 10(1):107-12.

20. Amador DD, Gomes IP, Coutinho SED, Costa TNA, Collet N. Concepção dos enfermeiros acerca da capacitação no cuidado à criança com câncer. Texto & contexto enferm. 2011 [acesso em: 13 nov 2013]; 20(1): 94-101.

Corresponding author: Thais de Oliveira Gozzo. Av. Bandeirantes 3900, CEP 14040-902. Ribeirão Preto-SP. E-mail: thaisog@eerp.usp.br.

Submitted: 10/10/14

Accepted: 20/01/15