

Medication Reconciliation in Oncologic Palliative Care

doi: <https://doi.org/10.32635/2176-9745.RBC.2021v67n4.1360>

Conciliação Medicamentosa em Cuidados Paliativos Oncológicos

Conciliación de la Medicación en Cuidados Paliativos Oncológicos

Maria Carolina Peçanha Fernandes¹; Luciana Favoreto Vieira Mattos²; Maria Fernanda Barbosa³

ABSTRACT

Introduction: The lack of information about the medications used by the patient can cause medication errors, so communication between health professionals, patients and family members is paramount for patient safety at different levels of attention to health. Clinical pharmacists can perform drug reconciliation and work in collaboration with other professionals to optimize pharmacotherapy and improve the patient's safety. Patients in Palliative Care tend to use polypharmacy, and when not accompanied by health professionals are susceptible to potential unintentional discrepancies caused by poor communication. **Objective:** To analyze the characteristics of the profile of drug reconciliations in patients who are under Oncologic Palliative Care. **Method:** Cross-sectional, analytical, and descriptive study. All the reconciliation visits performed at the admission of the patients were analyzed in the hospitalization unit of the National Cancer Institute José Alencar Gomes da Silva (HCIV/INCA), from June to November 2018. **Results:** A total of 194 visits were conducted, where 1,770 discrepancies (78.2%) were found, 93.8% intentional, 0.7% intentional documented and 5.4% unintentional. All the prescriptions presented at least one discrepancy and 34.5% were totally modified by the prescriber on admission. There were 112 pharmaceutical interventions related to medication reconciliation. **Conclusion:** The main discrepancies found, inclusion of drugs and dose adjustments, highlights the importance of the presence of clinical pharmacists at the time of the patient's admission, when it was possible to adjust pharmacotherapy, together with the clinical staff and contributing to the improvement of the prescription profile.

Key words: Medication Reconciliation; Palliative Care; Cancer Care Facilities; Patient Safety; Brazil.

RESUMO

Introdução: A ausência de informações a respeito dos medicamentos utilizados pelos pacientes pode causar erros de medicações. Assim, a comunicação entre profissionais de saúde, pacientes e familiares é primordial para a segurança do paciente nos diferentes níveis de atenção à saúde. Os farmacêuticos clínicos podem realizar a conciliação de medicamentos e atuar em colaboração com outros profissionais, objetivando otimizar a farmacoterapia e melhorar a segurança do paciente. As pessoas sob Cuidados Paliativos costumam fazer uso de polifarmácia e, quando não acompanhadas pelos profissionais de saúde, estão susceptíveis a potenciais discrepâncias não intencionais causadas por comunicação inadequada. **Objetivo:** Analisar o perfil das conciliações medicamentosas em pacientes que estão sob Cuidados Paliativos Oncológicos. **Método:** Estudo transversal, analítico e descritivo. Foram analisadas todas as visitas de conciliações realizadas na admissão dos pacientes, na unidade IV do Instituto Nacional de Câncer José Alencar Gomes da Silva (HCIV/INCA), no período de junho a novembro de 2018. **Resultados:** Realizaram-se 194 visitas, nas quais foram identificadas 1.770 discrepâncias (78,2%), sendo 93,8% intencionais, 0,7% intencionais documentadas e 5,4% não intencionais. Todas as prescrições apresentaram pelo menos uma discrepância e 34,5% foram totalmente modificadas pelo prescritor no ato da admissão. Foram realizadas 112 intervenções farmacêuticas relacionadas à conciliação medicamentosa. **Conclusão:** As principais discrepâncias encontradas, inclusão de medicamentos e ajustes de dose ressaltam a importância da presença de farmacêuticos clínicos no momento da admissão do paciente, em que foi possível ajustar a farmacoterapia, em conjunto com corpo clínico, contribuindo para a melhoria do perfil de prescrição.

Palavras-chave: Reconciliação de Medicamentos; Cuidados Paliativos; Institutos de Câncer; Segurança do Paciente; Brasil.

RESUMEN

Introducción: La falta de información sobre los medicamentos utilizados por el paciente puede generar errores de medicación, por lo que la comunicación entre los profesionales de la salud, los pacientes y los familiares es fundamental para la seguridad del paciente en los diferentes niveles de atención. Los farmacéuticos clínicos pueden realizar la conciliación de fármacos y trabajar en colaboración con otros profesionales para optimizar la farmacoterapia y mejorar la seguridad del paciente. Las personas que reciben Cuidados Paliativos suelen utilizar la polifarmacia y, cuando no están acompañadas de profesionales de la salud, son susceptibles a posibles discrepancias no intencionadas provocadas por una comunicación inadecuada. **Objetivo:** Analizar el perfil de las conciliaciones de fármacos en pacientes que se encuentran en Cuidados Oncológicos Paliativos. **Método:** Estudio transversal, analítico y descriptivo. Se analizaron todas las visitas de conciliación realizadas al ingreso de pacientes en la unidad de internación del Instituto Nacional del Cáncer José Alencar Gomes da Silva (HCIV/INCA), de junio a noviembre de 2018. **Resultados:** Se realizaron 194 visitas, durante las cuales se identificaron 1.770 discrepancias (78,2%), de las cuales 93,8% fueron intencionales, 0,7% fueron documentadas y 5,4% fueron no intencionales. Todas las prescripciones mostraron al menos una discrepancia y el 34,5% se modificó por completo por el prescriptor al ingreso. Se realizaron 112 intervenciones farmacéuticas relacionadas con la conciliación de fármacos. **Conclusión:** Las principales discrepancias encontradas, inclusión de medicamentos y ajustes de dosis, resaltan la importancia de la presencia de farmacéuticos clínicos en el momento del ingreso del paciente, donde fue posible ajustar la farmacoterapia, junto con el personal clínico y contribuyendo a la mejora clínica de la prescripción.

Palabras claves: Conciliación de Medicamentos; Cuidados Paliativos; Instituciones Oncológicas; Seguridad del Paciente; Brasil.

^{1,3}National Cancer Institute José Alencar Gomes da Silva (INCA), Palliative Care Unit. Rio de Janeiro (RJ), Brazil. E-mails: carolina.pecanha@hotmail.com; luciana.mattos@inca.gov.br; mbarbosa@inca.gov.br. Orcid iD: <https://orcid.org/0000-0002-8899-1421>; Orcid iD: <https://orcid.org/0000-0003-2772-9697>; Orcid iD: <https://orcid.org/0000-0002-2018-6151>

Corresponding author: Maria Carolina Peçanha Fernandes. Rua da Passagem, 7, apto. 1204 - Botafogo. Rio de Janeiro (RJ), Brazil. CEP 22290-030. E-mail: carolina.pecanha@hotmail.com



INTRODUCTION

It is known that approximately 60% of the errors of medication occur in the transition phase of healthcare level, particularly in medical prescriptions prepared at the admission or hospital release. The reconciliation of medication is carried out by the pharmacist where medications utilized earlier are compared with the medications prescribed. It is clinically important for the patients as it increases the safety by reducing considerably potential errors of medication and minimizing the discrepancies encountered among the medications already utilized and the hospital's prescriptions prepared at the admission¹.

The Joint Commission (TJC) understands that reconciliation can reduce errors and adverse events related to medications by avoiding missing, duplicities, and dosage errors^{2,3}. For that reason, TJC proposed in 2003, for the first time, to include the medication reconciliation in the parameters of quality evaluated with the main objective of improving patient's safety. In 2006, all healthcare organizations approved by this organ had to develop procedures of medication reconciliation⁴.

The main errors of medication at the healthcare units occur in the transition of the patient: (i) wrong or incomplete information about the medications utilized as dose missed, and therapeutic duplicity; (ii) drug interactions and (iii) errors of dose, posology, unjustified medications, and route of administration^{5,6}. In the context of the oncologic patient, the main difficulty is to prescribe medication avoiding polypharmacy and drug interactions. It is still more evident in Palliative Care where patients require control from seven to ten symptoms, being pain the most typical of them⁷⁻⁹. The objective of this study is to analyze the profile of medication reconciliation in patients in Oncologic Palliative Care in a reference hospital of the National Health System.

METHOD

Cross-sectional, analytical and descriptive study conducted from June to November 2018 with patients in Palliative Care of Hospital do Cancer IV of the National Cancer Institute José Alencar Gomes da Silva (HCIV/INCA); medication reconciliation was a routine task of the institution's Pharmacy.

Clinical Pharmacy is offered in 28 beds of INCA's Palliative Care Unit. On a daily base, the patients are visited at the admission by the pharmacist in charge in the first 24 hours. Those admitted in holidays or weekends are visited in the first subsequent business day. 194 patients admitted in the Palliative Care unit in the

study period were included. Patients under 18 years of age who were not on any prescribed medication usually, without companion and/or unable to communicate verbally were excluded.

During the process of reconciliation, new prescriptions were followed-up and compared with the list of medications the patient utilized earlier. If needed, the evolution in the charts was reviewed. Upon evaluation of the data, interventions with the physician were made if unjustified discrepancies were found. The data were collected through interview with the patients and/or companions and in physical and electronic charts. The form filled by the pharmacist had the following variables: age, diagnosis, symptoms, and scores of the Karnofsky Performance (KPS)¹⁰ which classifies the patient functionality (as lower the scores, less functions it is able to perform). The treatment of the patient was evaluated for (a) medications prescribed, name of the drug according to the Brazilian Nonproprietary Names (DCB), dose, route of administration and availability at the institution; (b) whether the medications the patient is using before the admission were listed in the prescriptions during hospital admission; (c) whether there were justifications for medication changes; (d) clinical staff acceptance of pharmaceutical intervention.

Every difference between the medications the patient used prior to the admission and the current hospital prescription was classified as discrepancy such as alterations of the route of administration, of the pharmaceutical form, dose or posology and inclusion, exclusion, or replacement of the medication. Intentional discrepancies were defined as those where there was justified medical decision to change the medication. In addition, when these were recorded in electronic or physical charts, they were classified as documented intentional discrepancies. Non-intentional discrepancies were defined as those where the medication prescribed formerly, alteration of the dose, frequency, or route of administration other than the utilized by the patient without justification were missing and duplicate therapy^{11,12}. In these cases, the interventions were evaluated and if they were accepted or not. The therapeutic classes of the medications involved in the discrepancies were categorized according to the classification Anatomical Therapeutic Chemical (ATC)¹³.

The data were transcribed to an electronic spreadsheet and analyzed with the software Microsoft Office Excel®.

The Institutional Review Board of INCA approved the study, report number 2683715 and CAAE: 89429118.5.0000.5274 and conducted in compliance with Ordinances 466/2012¹⁴ and 510/2016¹⁵ of the National Health Council.

RESULTS

194 reconciliation visits were completed from June to November 2018, mostly females (58.3%), median age of 60 and KPS with median of 40, meaning that the patient is impaired, requires care and frequent medical support. Cancer of abdomen was the most frequent (27.3%) followed by cancers of head and neck (16.0%) and gynecologic (17.5%). Sixty-four patients (33%) were referred from HCI, HCII, HCIII and 130 (67.1%) were already at HCIV followed up by Homecare Service (AD) or Outpatient (AMB).

The motives for admission were grouped in eight categories, one patient could have more than one motive. The leading cause was symptoms control, reaching 165 (67%) occurrences and those reported at the most were pain, vomit, dyspnea, confusion and/or disorientation and fatigue. Thirty patients (11.1%) were admitted by direct referral from other INCA units, 23 (8.5%) due to modification of the biochemical parameters, 14 (5.2%) by problems with ostium, nasogastric probe, tracheostomy, gastrostomy and/or jejunostomy, eight (3.0%) for procedures and six (2.2%) by fragility of the support network (Table 1).

Figure 1 shows 1,616 medications of former prescriptions of the participants admissions grouped per class of medication according to ATC. The median of the medications before admission was eight with more prevalence of analgesic (21.5%), followed by antiemetic (13.4%), laxatives (10.6%), gastric protectant (9.4%), corticoid (7.6%), antiepileptic (6.6%), antihypertensive (6.5%). Medications of 29 different classes were classified as others (24.4%).

Of the total of 194 prescriptions, only 41 (21.1%) had less than 50% of the medications modified and 67 (34.6%), 100% of the former prescription were modified by the prescriber at admission (Table 2). 1,700 discrepancies were identified, the route of administration of 592 (33.4%) medications were modified, 429 (24.2%) were missing, 389 (22.0%) changed the dose, 346 (19.6%) had inconsistencies in the frequency and 14 (0.8%) had duplicities.

In relation to the classifications of discrepancies, 1,661 (93.8%) were intentional, 13 (0.8%) of these were intentional documented and 96 (5.4%) were non-intentional discrepancies. In all, 112 interventions of reconciliation were carried out and reconciled, however, 16 were not accepted and were classified as intentional discrepancies. Based in the accepted interventions (96), 41 (42.7%) medications missed were included, 30 (31.3%) had posology adjustment, 18 (18.1%) were excluded and five (5.2%) medications were replaced by other of the same therapeutic class due to shortage.

Table 1. Characteristics of the 194 participants visited from June to November 2018

Sex	N (=194)	%
Female	113	58.3
Male	81	41.7
Age	Median	Variation
	60	21 - 89
KPS	Median	Variation
	40	10 - 80
Type of primary cancer	N (=194)	%
Abdomen	53	27.3
Gynecologic	34	17.5
Head and neck	31	16.0
Breast	27	13.9
Lung	19	9.8
Skin	9	4.6
CBT	7	3.6
CNS	5	2.6
Prostate	5	2.6
Undefined	3	1.5
Penis	1	0.5
Origin of prescription	N (=194)	%
HCIV AMB	75	38.7
HCIV AD	55	28.3
HCI	37	19.1
HCII	16	8.2
HCIII	11	5.7
Motives of admissions	N (=483)	%
Symptoms control	165	61.1
Altered biochemical parameters	23	8.5
Transferences among units	30	11.1
Problems with ostium (probes, GTT, TQ)	14	5.2
Drop of the general condition	13	4.8
Dehydration	11	4.1
Exam/procedure	8	3.0
Fragility of the support network	6	2.2

Caption: KPS = Karnofsky Performance Status; CBT = Connective and bone tumor; CNS = Central Nervous System; HCI = Hospital of Cancer I; HCII = Hospital of Cancer II, HCIII = Hospital of Cancer III; HCIV = Hospital of Cancer IV; OUT = Outpatient; HC = Homecare; GTT = Gastrostomy; TQ = Tracheostomy.

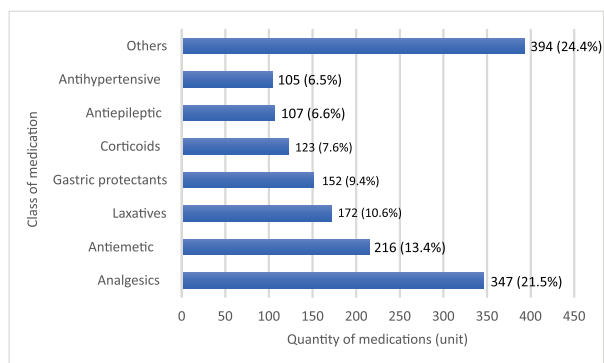


Figure 1. Class of medications according to ATC utilized by the patients before medication reconciliation

DISCUSSION

Through all the transitions of healthcare, the patients must be followed-up to ensure the safety of the medications utilized: at the admission, collecting accurate information about the medications formerly utilized, during the transitions along the admission and later in hospital release to prevent errors of self-medication. Within this perspective, the process of medication reconciliation contributes to diminish errors, minimizing risks for the patients, particularly those with cancer¹⁶.

The patients in Oncologic Palliative Care as this study revealed, utilized predominantly medications to control the symptoms that the disease has caused or drug-related adverse events. An example are the opioid analgesics that cause constipation and consequently, the prescription of laxatives¹⁷⁻¹⁹. Pain was the symptom most reported in oncologic patients in Palliative Care²⁰⁻²², unlike other articles published with different populations with the majority of patients in use of medications for chronic non-communicable diseases²³⁻²⁵.

The results of the classifications of discrepancies are similar to the study of Lindenmeyer et al.²⁶ in a public hospital of the Brazil's south region where, at admission of onco-hematologic patients, the majority of discrepancies were intentional. These findings were justified by the current clinical condition of the patients, alterations of the doses, frequency or route of administration and replacement by other institution's standard medications²⁶.

As shown earlier, 0.7% of the discrepancies were documented, they were described in charts, signaling that the excessive number of undocumented discrepancies may be directly connected to the unintentional discrepancies due to lack of register or quality of the patient's medication. These information are essential to ensure its safety and correct pharmacotherapy^{27,28}.

The most prevalent types of discrepancies in the current study – route of administration and missed medications – can be justified by a particularity of healthcare in end-

Table 2. Characteristics of the results of the pharmacy reconciliations between June and November 2018

Medications modified by prescription	N (=194)	%
<50%	41	21.1
>50% to 90%	86	44.3
100%	67	34.6
Types of discrepancies	N (=1,770)	%
Route of administration	592	33.4
Missed	429	24.2
Dose	389	22.0
Frequency	346	19.6
Duplicity	14	0.8
Classification of the discrepancies	N (=1,770)	%
Intentional discrepancies	1661	93.8
Documented intentional discrepancies	13	0.8
Non-intentional discrepancies	96	5.4
Types of accepted interventions	N (=96)	%
Inclusion of medication	41	42.7
Adjustment of dose or posology	30	31.3
Exclusion of medication	18	18.1
Substitution by medication of the same therapeutic class	5	5.2
Alteration of the pharmaceutical form	1	1.0
Alteration of the route of administration	1	1.0

of-life when providing comfort is paramount. For this, a holistic evaluation of the patient is carried out and use of the most appropriate route to manage the symptoms and improve the quality of life⁹. Therefore, the interventions targeted to change the route of administration can be exemplified as alteration from oral to intravenous as long as the patient is unable to swallow pills. The discrepancy “missed medications” leads to pharmaceutical intervention “inclusion of medications”. While analyzing the motive of these interventions, it was concluded that of the total, 17% were related to unavailable medications for dispensation and were brought by the patient and its caretaker; 36.6% were medications the patients utilized because of comorbidity as laxatives, analgesic, and antiemetic; the others were medications of chronic

use as antihypertensive, and controlled as anxiolytic, antidepressant and antipsychotic. In addition, there was high rate of intervention for changing dose or posology where 46% were analgesic and 30% antiemetic, which reinforces the polysymptomatic characteristic of the population investigated.

According to Herledan et al.¹⁶, a systematic review evaluating the clinical and economic impact of the reconciliation medication showed there is significant impact when it comes to errors of medication detected with reconciliation and this benefit is seen both in outpatient and hospitalizations, at the admission or discharge. The studies selected in this review have also revealed that medication reconciliation allows the clinical pharmacist to make additional interventions. As the current study shows, other than the reconciliation intervention was accepted, indicating the importance of the pharmacist perspective in clinical routine¹⁶.

Recent studies found resistance of the medical staff leading to low acceptance of the interventions because the service is still in construction, poor knowledge of the role of the pharmacist, the importance of medication reconciliation for the patient's safety and the economic impact this practice can create for the hospital^{30,31}. However, in this study, the participation of the pharmacist in the process has been shown to be effective and well accepted, strengthening the importance of the implantation of this routine in the institution. As only part of the hospital unit was involved, this can be considered its main limitation. Human resources are necessary to implement reconciliation medication in the entire hospital. It will expand the service to encompass, in addition to the reconciliation medication at the hospital discharge, the pharmacotherapeutic follow-up and guidance at discharge.

During the first 24 hours after the admission, the thorough interview conducted by the pharmacist allowed to retrieve important information about the use of medications and was able to contribute for the control of the symptoms and comfort of the patient. More studies of reconciliation in Palliative Care need to be done in order to stimulate the insertion of the pharmacist in clinical practice, in addition to the contribution for the treatment of the patient.

CONCLUSION

The characteristics of the patients in Palliative Care strengthen the practice of reconciliation that the pharmacist is in charge since they are polysymptomatic, poly plaintiffs and polymedicated. They are at advanced stage of the oncologic disease and for that reason, are

admitted due to the lack of control of several symptoms, however, in addition to cancer, other comorbidities as hypertension, depression and anxiety are detected. The profile of reconciliation follows the literature and with the information collected at the interview, the pharmacist can help to manage the symptoms while conducting other than the interventions covered by the process of reconciliation.

CONTRIBUTIONS

The authors contributed substantially for the study design or planning, collection, analysis and/or interpretation of the data, wording, and critical review. They approved the final version to be published.

ACKNOWLEDGMENTS

To Flávia C. Barcelos, Andréa A. Tofani and Renata R. V. Cataldo, pharmacists of INCA for the support in interpreting the data and critical review of the study; to Priscilla B. Pujatti, friend and guide of Improvement in Radiopharmacy for the help, incentive, and support.

DECLARATION OF CONFLICT OF INTERESTS

There is no conflict of interests to declare.

FUNDING SOURCES

None.

REFERENCES

1. Ketchum K, Grass CA, Padwojski A. Medication reconciliation: verifying medication orders and clarifying discrepancies should be standard practice. *Am J Nurs*. 2005;105(11):78-9, 81-2, 84-5. doi: <https://doi.org/10.1097/00000446-200511000-00033>
2. Rozich JD, Howard RJ, Justeson JM, et al. Standardization as a mechanism to improve safety in health care. *Jt Comm J Qual Saf*. 2004;30(1):5-14. doi: [https://doi.org/10.1016/s1549-3741\(04\)30001-8](https://doi.org/10.1016/s1549-3741(04)30001-8)
3. Joint Commission International. Joint Commission International accreditation standards for hospitals: including standards for Academic Medical Center Hospitals. 7th ed. Oakbrook Terrace, IL: JCI; 2021.
4. Delgado Sánchez O, Martínez López I, Crespi Monjo M, et al. Conciliación de la medicación: asumamos la responsabilidad compartida. *Farm. Hosp*. 2008;32(2):63-4. doi: [https://doi.org/10.1016/S1130-6343\(08\)72815-0](https://doi.org/10.1016/S1130-6343(08)72815-0)
5. Gleason KM, McDaniel MR, Feinglass J, et al. Results of the Medications at Transitions and Clinical Handoffs

- (MATCH) study: an analysis of medication reconciliation errors and risk factors at hospital admission. *J Gen Intern Med.* 2010;25(5):441-7. doi: <https://doi.org/10.1007/s11606-010-1256-6>
6. Conklin JR, Togami JC, Burnett A, et al. Care transitions service: a pharmacy-driven program for medication reconciliation through the continuum of care. *Am J Health Syst Pharm.* 2014;71(10):802-10. doi: <https://doi.org/10.2146/ajhp130589>
 7. Waller A, Caroline NL. *Handbook of palliative care in cancer.* 2nd. Oxford, UK: Butterworth-Heinemann; 2000.
 8. Koh NY, Koo WH. Polypharmacy in palliative care: can it be reduced? *Singapore Med J.* 2002;43(6):279-83.
 9. McNeil MJ, Kamal AH, Kutner JS, et al. The burden of polypharmacy in patients near the end of life. *J Pain Symptom Manage.* 2016;51(2):178-83. doi: <https://doi.org/10.1016/j.jpainsymman.2015.09.003>
 10. Karnofsky DA, Abelmann WH, Craver LF, et al. The use of the nitrogen mustards in the palliative treatment of carcinoma. With particular reference to bronchogenic carcinoma. *Cancer.* 1948;1(4):634-56. doi: [https://doi.org/10.1002/1097-0142\(194811\)1:4<634::AID-CNCR2820010410>3.0.CO;2-L](https://doi.org/10.1002/1097-0142(194811)1:4<634::AID-CNCR2820010410>3.0.CO;2-L)
 11. World Health Organization. The high 5s project: interim report. Geneva: WHO; 2013 Dec.
 12. Brito AMG. *Reconciliação e revisão da medicação na unidade de hospitalização domiciliária [dissertação].* Almada, PT: Instituto Superior de Ciências da Saúde Egas Moniz; 2017.
 13. ATC/DDD Index 2021 [Internet]. Oslo, NO: WHO Collaborating Centre for Drug Statistics Methodology. [date unknown] - [update 2020 Dec 17; cited 2018 Agu 30]. Available from: <http://www.whocc.no/atcddd>
 14. Conselho Nacional de Saúde (BR). Resolução nº 466, de 12 de dezembro de 2012. Aprova as diretrizes e normas regulamentadoras de pesquisas envolvendo seres humanos. *Diário Oficial da União, Brasília, DF.* 2013 jun 13; Seção 1:59.14.
 15. Conselho Nacional de Saúde (BR). Resolução nº 510, de 7 de abril de 2016. Dispõe sobre as normas aplicáveis a pesquisas em Ciências Humanas e Sociais cujos procedimentos metodológicos envolvam a utilização de dados diretamente obtidos com os participantes ou de informações identificáveis ou que possam acarretar riscos maiores do que os existentes na vida cotidiana, na forma definida nesta Resolução. *Diário Oficial da União.* 2016 maio 24; Edição 98, Seção I:44.15.
 16. Herledan C, Baudouin A, Larbre V, et al. Clinical and economic impact of medication reconciliation in cancer patients: a systematic review. *Support Care Cancer.* 2020;28(8):3557-69. doi: <https://doi.org/10.1007/s00520-020-05400-5>
 17. Pappagallo M. Incidence, prevalence, and management of opioid bowel dysfunction. *Am J Surg.* 2001;182(5A Suppl):11S-18S. doi: [https://doi.org/10.1016/s0002-9610\(01\)00782-6](https://doi.org/10.1016/s0002-9610(01)00782-6)
 18. De Luca A, Coupar IM. Insights into opioid action in the intestinal tract. *Pharmacol Ther.* 1996;69(2):103-15. doi: [https://doi.org/10.1016/0163-7258\(95\)02053-5](https://doi.org/10.1016/0163-7258(95)02053-5)
 19. Herndon CM, Jackson KC, Hallin PA. Management of opioid-induced gastrointestinal effects in patients receiving palliative care. *Pharmacotherapy.* 2002;22(2):240-50. doi: <https://doi.org/10.1592/phco.22.3.240.33552>
 20. Mercadante S, Adile C, Caruselli A, et al. The palliative-supportive care unit in a comprehensive cancer center as crossroad for patients' oncological pathway. *PloS One.* 2016;11(6):e0157300. doi: <https://doi.org/10.1371/journal.pone.0157300>
 21. Bruce CM, Smith J, Price AA. Study of the incidence and management of admissions for cancer-related symptoms in a district general hospital: the potential role of an acute oncology service. *Clin Oncol (R Coll Radiol).* 2017;29(9):e148-e155. doi: <https://doi.org/10.1016/j.clon.2017.03.012>
 22. Mercadante S, Marchetti P, Adile C, et al. Characteristics and care pathways of advanced cancer patients in a palliative-supportive care unit and an oncological ward. *Support Care Cancer.* 2018;26(6):1961-6. doi: <https://doi.org/10.1007/s00520-017-4037-5>
 23. Riechelmann RP, Tannock IF, Wang L, et al. Potential drug interactions and duplicate prescriptions among cancer patients. *J Natl Cancer Inst.* 2007;99(8):592-600. doi: <https://doi.org/10.1093/jnci/djk130>
 24. Spalla LR, Castilho SR. Medication reconciliation as a strategy for preventing medication errors. *Braz J Pharm Sci.* 2016;52(1):143-50. doi: <https://doi.org/10.1590/S1984-82502016000100016>
 25. Santos FN. *Avaliação do cuidado farmacêutico na conciliação de medicamentos em pacientes idosos com câncer [tese na Internet].* Ribeirão Preto, SP: Faculdade de Medicina de Ribeirão Preto; 2018. doi: <https://doi.org/10.11606/T.17.2018.tde-23072018-135825>
 26. Lindenmeyer LP, Goulart VP, Hegele V. Reconciliação medicamentosa como estratégia para a segurança do paciente oncológico - resultados de um estudo piloto. *Rev Bras Farm Hosp Serv Saúde São Paulo [Internet].* 2013 [acesso 2019 jan 11];4(4):51-5. Disponível em: <http://www.v1.sbrafh.org.br/public/artigos/2013040408000469BR.pdf>
 27. Alvim BA. *Importância da implantação e desenvolvimento da reconciliação medicamentosa em hospitais [monografia].* Palmas, TO: Universidade Luterana do Brasil; 2015.
 28. Vega TG, Sierra-Sánchez JF, Martínez-Bautista MJ, et al. Medication reconciliation in oncological patients: a randomized clinical trial. *J Manag Care Spec Pharm.*

- 2016;22(6):734-40. doi: <https://doi.org/10.18553/jmcp.2016.15248>
29. Visser C, Hadley G, Wee B. Reality of evidence-based practice in palliative care. *Cancer Biol Med.* 2015;12(3):193-200. doi: <https://doi.org/10.7497/j.issn.2095-3941.2015.0041>
30. Oliveira LDB. Análise econômica da conciliação de medicamentos em uma unidade de internação de um hospital de ensino [monografia]. Lagarto, SE: Universidade Federal de Sergipe; 2018.
31. Pimenta PA, Santos KFS, Silva CML, et al. Conciliação de medicamentos em um hospital de ensino de Sergipe: lições aprendidas na implementação de um serviço. *Sci Plena.* 2020;16(8):084501. doi: <https://doi.org/10.14808/sci.plena.2020.084501>

Recebido em 16/12/2020
Aprovado em 1/3/2021