Analysis of Opioid Switching in Patients with Gynecological Tumors Admitted to a Palliative Care Unit between 2021 and 2022

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Análise do Rodízio de Opioides em Pacientes com Tumores Ginecológicos Internadas em uma Unidade de Cuidados Paliativos entre os anos de 2021 e 2022

Análisis del Cambio de Opioides en Pacientes con Tumores Ginecológicos Ingresadas en una Unidad de Cuidados Paliativos entre 2021 y 2022

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ABSTRACT

Introduction: Palliative care aims to improve the quality of life of cancer patients by addressing physical, psychosocial, and spiritual issues, being pain control one of its pillars. **Objective:** To analyze the profile of patients with gynecological tumors admitted to the palliative care unit of a reference oncology hospital who used opioids, and the association of opioid switching with clinical and therapeutic variables. **Method:** Cross-sectional study involving inpatients in a palliative care unit in Rio de Janeiro (2021-2022). Sociodemographic, clinical, and therapeutic data of the patients were collected from clinical and administrative records during their hospitalization. Subsequently, the association between opioid rotation and the clinical and therapeutic variables of the patients was analyzed. The chi-square and Fisher's exact tests for the categorical variables, and the Kruskal-Wallis test for continuous variables were utilized. **Results:** Records of 193 patients were analyzed, with a mean age of 54 (+14.97) years, predominantly self-claimed as Brown (66.8%) and Black (18.1%), with up to six years of education (63.3%). Cases of cervical cancer were predominant (65.5%), mainly at stage III (47%). Opioid rotation was observed in 38.0% of the patients and was statistically associated with renal insufficiency and length of stay, with $p<0.05$. **Conclusion:** Management of oncological pain relies on understanding opioid use and the clinical factors that may impact the prescription of these medications.
Key words: Cancer Pain; Hospitalization; Palliative Care; Analgesics Opioid.

RESUMO

Introdução: Os cuidados paliativos visam melhorar a qualidade de vida de pacientes com câncer, abordando questões físicas, psicossociais e espirituais, tendo o controle da dor como um dos seus pilares. **Objetivo:** Analisar o perfil de pacientes com tumores ginecológicos internadas na unidade de cuidados paliativos de um hospital de referência em oncologia que utilizaram opioides e a associação do rodízio de opioides com as variáveis clínicas e terapêuticas. **Método:** Estudo transversal com pacientes hospitalizadas em uma unidade de cuidados paliativos no Rio de Janeiro (2021-2022). Foram coletados, dos registros clínicos e administrativos, dados sociodemográficos, clínicos e terapêuticos das pacientes durante o período de internação. Em seguida, foi analisada a associação entre o rodízio de opioides e as variáveis clínicas e terapêuticas das pacientes. Utilizaram-se os testes qui-quadrado e exato de Fisher nas análises de associação de variáveis categóricas, e o teste de Kruskal-Wallis para as variáveis contínuas. **Resultados:** Foram analisados os registros de 193 pacientes com média de idade de 54 (±14,97) anos, com maior frequência das autoidentificadas como pardas (66,8%) e pretas (18,1%) e com até seis anos de escolaridade (63,3%). Predominaram os casos de câncer do colo do útero (65,5%), principalmente em estádio III (47%). O rodízio de opioides foi observado em 38,0% das pacientes e foi estatisticamente associado à insuficiência renal e ao tempo de internação, com valor de $p<0,05$. **Conclusão:** O controle da dor oncológica requer compreensão do uso de opioides e dos fatores clínicos que podem impactar na prescrição desses medicamentos.
Palavras-chave: Dor do Câncer; Hospitalização; Cuidados Paliativos; Analgésicos Opioides.

RESUMEN

Introducción: Los cuidados paliativos tienen como objetivo mejorar la calidad de vida de los pacientes con cáncer, abordando cuestiones físicas, psicosociales y espirituales con el control del dolor como uno de sus pilares. **Objetivo:** Analizar el perfil de pacientes con tumores ginecológicos ingresadas en la unidad de cuidados paliativos de un hospital de referencia en oncología, que utilizaban opioides y la asociación de la rotación de opioides con variables clínicas y terapéuticas. **Método:** Estudio transversal con pacientes hospitalizadas en una unidad de cuidados paliativos en Río de Janeiro (2021-2022). Se recolectaron, de los registros clínicos y administrativos, datos sociodemográficos, clínicos y terapéuticos de las pacientes durante el período de hospitalización. Posteriormente, se analizó la asociación entre la rotación de opioides y las variables clínicas y terapéuticas de las pacientes. Se utilizaron las pruebas ji al cuadrado y exacta de Fisher en los análisis de asociación de variables categóricas, y la prueba de Kruskal-Wallis para las variables continuas. **Resultados:** Se analizaron los registros de 193 pacientes con una edad promedio de 54 (±14,97) años, siendo la mayoría autodenominada como parda (66,8%) y negra (18,1%), con hasta seis años de escolaridad (63,3%). Predominaron los casos de cáncer de cuello uterino (65,5%), principalmente en estadio III (47%). La rotación de opioides se observó en el 38,0% de las pacientes y estuvo asociada estadísticamente con insuficiencia renal y el tiempo de hospitalización, con un valor de $p<0,05$. **Conclusión:** El control del dolor oncológico requiere una comprensión del uso de opioides y de los factores clínicos que pueden impactar la prescripción de estos medicamentos.
Palabras clave: Dolor en Cáncer; Hospitalización; Cuidados Paliativos; Analgésicos Opioides.

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INTRODUCTION

Gynecological tumors location was classified according to the International Classification of Diseases and Related Health Problems – 10th Edition[1] (ICD-10), as cervical cancer, cancer of the uterine body, ovary cancer, endometrium cancer, vulvar cancer. In 2022, cervical cancer was the fourth most incident among women worldwide, accounting for 6.8% of the cases, and the eighth most common with 661,021 new cases diagnosed[2].

In the last decades, cervical cancer incidence reduced in some European countries as Portugal, for instance, with declining mortality rates[3] due to improved access to early diagnosis. However, other gynecological tumors as ovary cancer continue to grow in the world[4].

Contrary to other economically developed countries, the incidence in Brazil remains high. The National Cancer Institute (INCA)[5] estimates 1,944 deaths for 2023-2025, with mortality rate of 1.8 per 100 thousand women per year for this type of cancer. The estimate for ovary cancer is 3,920 deaths, with mortality rate of 3.62 per 100 thousand inhabitants for each year of the triennium.

Many cases were diagnosed at advanced staging which limits the therapeutic options with curative approach. As a result, palliative care emerge to improve the quality of life of individuals affected by these neoplasms[6].

Current health strategies indicate the necessity of palliative care throughout the whole line of care to the oncologic patients, including management of different symptoms as pain, constipation, nausea, dyspnea, anxiety and depression which significantly impact their quality of life[7,8].

Pain is a common symptom in patients with advanced malignancy potentially impacting the quality of life, mostly for those who submitted to different treatments. The International Association for the Study of Pain (IASP) defines pain as "an unpleasant sensory and emotional experience associated with or potential tissue damage"[9]. Due to its complexity, the multiprofessional team in clinical practice should understand clinically all the aspects of the pain and perform a thorough evaluation at the anamneses, in special for those in palliative care[10].

In this context, opioids play a key role, especially for pain control in patients with life-threatening diseases, promoting relief, improving the quality of life and bringing comfort and dignity in the course of palliative treatment during survival[11]. Pain management with opioids should be matched to the individual needs. In order to ensure an effective control of the pain, opioids rotation, known as "opioids switching" attempts to ensure an effective control of the pain, adjusting the doses to optimize relief and minimize adverse events[12].

The objective of this article, due to the relevance of opioids for patients in palliative care and their quality of life, is to describe the epidemiologic profile of patients with primary gynecological tumors admitted to a palliative care unit of an oncology reference hospital who used opioids from 2021 to 2022 and analyze the association among therapeutic and clinical variables and the process of opioids switching. How this process unfolds is critical to optimize pain management and palliative care of patients with gynecological tumor.

METHOD

Cross-sectional study of the clinical and sociodemographic profile of inpatients diagnosed with primary gynecological tumors and opioids use at a public cancer reference palliative care unit in the city of Rio de Janeiro from January 1st, 2021 to December 31st, 2022.

The reference cancer hospital has three specialized care units for different types of neoplasm and one palliative care unit. The study patients diagnosed with gynecological tumor were initially treated at the gynecological cancer unit for disease control or remission. After a certain period and according to the clinical condition, these patients were admitted to a palliative care unit to receive focused attention.

The information about the patients' therapeutic evolution and past treatments was obtained at the palliative care unit. Patients who used opioids at that unit were enrolled and those with missing sociodemographic information were excluded from the study.

Data collected included sociodemographic variables as age, self-claimed color or race and education, in addition to clinical variables as diagnosis according to ICD[1] and staging according to the International Federation of Gynecology and Obstetrics[13] (FIGO) categorized as initial and advanced stage. Therapeutic variables involved past treatment information on surgery, brachytherapy, radiotherapy, chemotherapy and duration of treatment at the gynecological cancer unit and the patients' therapeutic evolution.

Palliative care data have also been collected: performance status (PS), which determines the functional ability of the cancer patient when referred to the palliative care unit, comorbidities, kidney failure, motive for admission, opioids switching and route of administration. PS was classified as: 0 – fully active, no performance restrictions; 1 – few symptoms; 2 – moderate symptoms;

3 – 50% confined to bed; 4 – completely disabled when referred to the unit[14].

Opioids switching was classified according to the analgesic scale from mild to strong or strong to mild. Length of stay at the specialized palliative care unit was analyzed too.

The data collected portray the therapeutic itinerary of the patient at the hospital obtained from computer-based clinical, administrative records and physical charts and exported to Microsoft Excel® spreadsheets.

The software RStudio[15] was utilized to analyze the data, descriptive statistics as mean, median, standard-deviation for continuous variables or absolute and percent frequency for categorical variables. Statistical chi-square and Fisher exact tests[16] were utilized to analyze the association of two categorical variables, opioids switching and clinical and therapeutic variables, with $p<0.05$, confidence interval of 95% and prevalence ratio (PR) of the groups exposed and non-exposed to opioids switching. The Kruskal-Wallis test[16] was adopted to analyze the association of the continuous variables. Association of clinical variables and opioids use was important to evaluate whether the patient's therapeutic itinerary impacted pain treatment as outcome of opioid switching.

The institution's Ethic Committee approved the study, report number 7149607 (CAAE (submission for ethical review): 68705423.9.0000.5274) in compliance with Directive 466/2012[17] of the National Health Council.

RESULTS

407 patients diagnosed with primary gynecological tumor admitted to the palliative care unit have been identified. Of these, 205 who used opioids were admitted, 12 were excluded due to missing sociodemographic information at the chart.

The mean age of the women was 54 years, standard deviation of 14.97. A moderate relative variation of 0.27 in relation to the mean highlights the dispersion, and 34.72% of the patients were older than 60 years of age. Most of the patients have completed only elementary school with ≤6 years of education (63.21%) (Table 1).

Table 1. Sociodemographic data of patients with gynecological tumors admitted to a palliative care unit who used opioids, 2021-2022

Variable	n	%
Age range		
≥ 18 and < 40 years	37	19.17
≥ 40 and < 60 years	89	46.11
≥ 60 years	67	34.72
Self-claimed skin color		
Brown	94	48.71
Black	35	18.13
White	64	33.16
Education		
Elementary	122	63.21
High school	57	29.54
University	14	7.25

The analysis of the clinical profile revealed that cervical cancer was the most prevalent with 65.81% of the cases followed by endometrium cancer (22.8%). Advanced staging at diagnosis (III and IV) accounted for 66.84% of the patients as shown in Table 2.

The treatments offered by the gynecology unit included curative (initial staging) or control (advanced staging) management. Of the total of patients, 49.22% were submitted to surgery, 74.61% to radiotherapy and 50.78% to brachytherapy.

Regarding systemic treatments, 39.38% of the patients received platinum-based drugs and 34.20% were submitted to more than two lines of chemotherapy. A few of them did not receive specific systemic treatment for gynecological cancer. The median of time of treatment observed for patients of the oncologic gynecology was 658 days (min.= 2; IQR=861; max.= 8,825), showing great variation of time of treatment.

Hypertension (23.32%) was the most prevalent comorbidity of the group followed by diabetes (19.69%) and other comorbidities (9.84%). Most of the patients presented PS 3 (53.37%) when referred to exclusive palliative care. The frequency of remote metastasis was 64.77% and the group who had no metastasis (3.11%) was older than 70 years of age.

Poorly controlled pain (18.32%), nausea and vomits (9.95%), malignant obstruction (10.47%) and bleeding (4.71%) were the main motives for admission at the palliative care unit during the study period. The frequency of patients admitted with these four symptoms was 50.79%.

Opioids switching at the unit corresponded to 38.34% during the study period. The patients who did not switched opioids when admitted for symptoms control used morphine (59.07%). The analysis of opioid rotation showed that the change from strong to stronger opioid occurred in 31.08% of the cases. For most of the cases (51.35%), a weak opioid was changed to a

Table 2. Clinical profile of patients with gynecological tumors admitted to a palliative care unit who used opioids, 2021-2022

Variable	n	%
Main Diagnosis		
Cervical cancer	127	65.81
Cancer of the uterine body	43	22.28
Ovary cancer	14	7.25
Others	9	4.66
Tumor staging at diagnosis		
Initial staging (I and II)	61	31.61
Advanced staging (III and IV)	129	66.84
Not informed	3	1.55
Comorbidities		
Yes	111	57.51
No	82	42.49
Performance status		
1	17	8.81
2	38	19.69
3	103	53.37
4	34	17.62
Not informed	1	0.51
Kidney failure		
Yes	75	38.86
No	118	61.14
Metastasis		
None	6	3.11
Local and lymph nodes	62	32.12
Remote	125	64.77
Opioids switching		
Yes	74	38.34
No	119	61.66

stronger one: tramadol was replaced by morphine. In some cases (17.57%), a stronger opioid was replaced by a weaker one.

The analysis of clinical and therapeutic variables revealed that only kidney failure was statistically associated with opioids switching as shown in Table 3.

Opioids switching was analyzed also in relation to the length of stay at the palliative care unit and those with longer hospitalization switched opioids more often. Variation of length of hospital stay in interquartile range was higher for those who switched opioids (Figure 1).

The association among length of hospital stay and opioids switching presented a statistically significant difference with $p<0.05$. The median of length of hospital stay of the patients who switched a strong to a weak opioid was 29 days while those who changed a strong opioid as morphine to a stronger opioid as fentanyl was 23 days. The median for the patients who did not switched opioids was 14 days of hospitalization. The dispersion of length of hospital stay was bigger in the group who switched opioids (IQR = 27 days) than the group who didn't (IQR = 13 days), suggesting that length of hospital stay for patients who switched opioids varied more with some outliers for both groups.

DISCUSSION

Opioids switching of patients with primary gynecological tumor admitted to the intensive care unit of an oncology reference hospital from 2021 to 2022 was associated with kidney failure and length of hospital stay.

Most of the patients enrolled in the study were diagnosed with cervical cancer. The high prevalence of advanced cervical cancer for this sample can mirror fragilities of the strategies of prevention and early diagnosis in Brazil and social issues related to this neoplasm[18]. The most common age range affected by this disease was 40-59 years consistent with other studies[19]. The high frequency of women self-claimed Brown or Black can reflect the disparities and vulnerabilities of

Table 3. Association among opioids switching and clinical and therapeutic variables in patients with gynecological tumors admitted to a palliative care unit who used opioids – 2021-2022

Variables	Prevalence Ratio (CI 95%)	Prevalence (%)	*p*
Surgery	1.17 (0.87. 1.58)	50.76	0.290
Radiotherapy	1.17 (0.70. 1.95)	49.33	0.543
Brachytherapy	1.22 (0.90. 1.67)	49.61	0.190
Comorbidities	0.92 (0.66. 1.29)	52.77	0.640
Kidney failure	1.42 (1.09. 1.84)	38.75	0.005

Caption: CI = confidence interval.

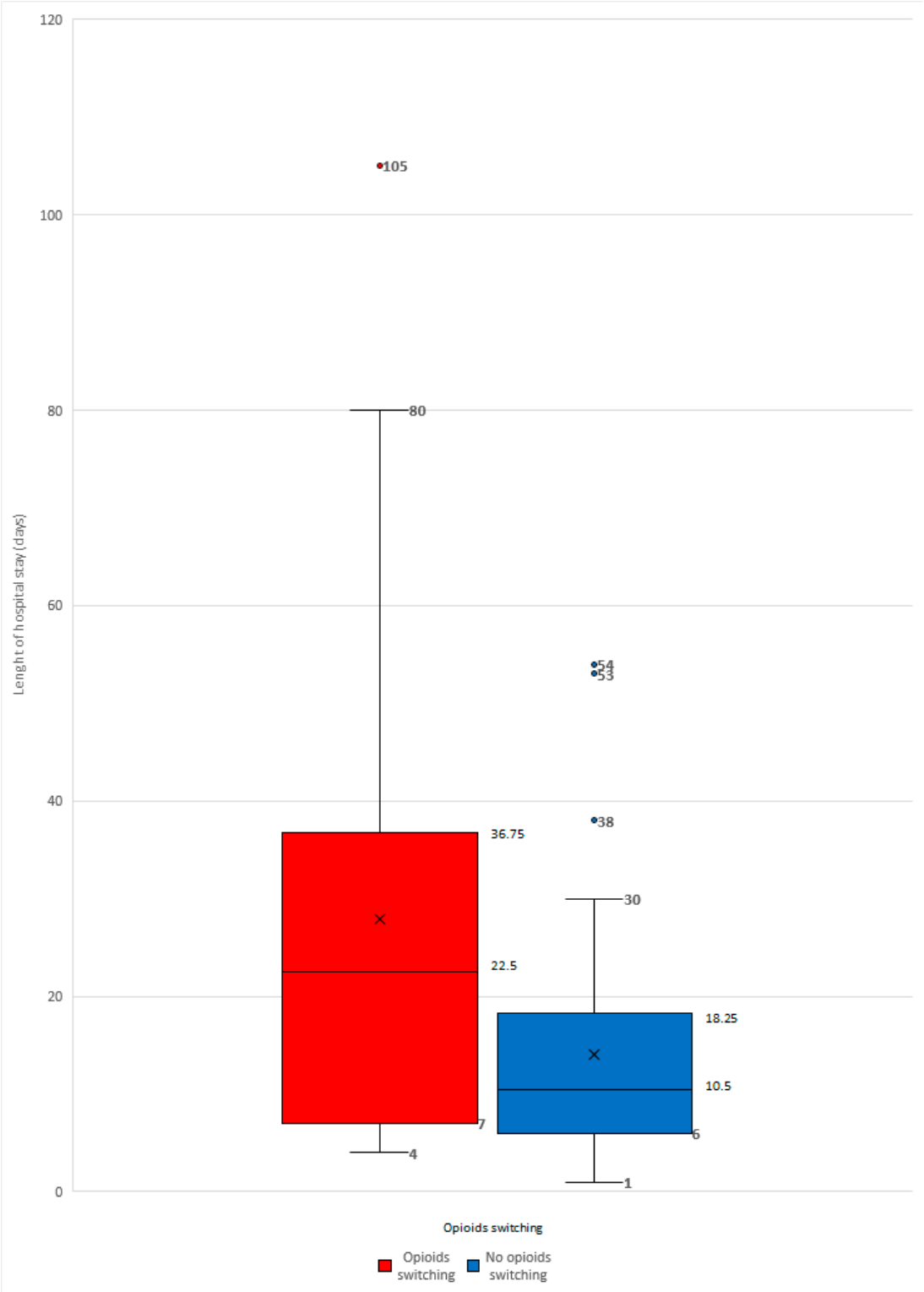

Figure 1. Relation between length of hospital stay and opioids switching in patients with gynecologic tumors admitted to a palliative care unit who used opioids, 2021-2022

access to health services for the Black population as other studies have already concluded[20,21].

The analysis of the clinical characteristics of the study sample revealed that there was late referral of patients with gynecological tumors to palliative care with a debilitating pattern already identified by Falci et al.[22]. Excess of symptoms as nausea, malignant obstruction and poor pain control are most common in

patients with malignant tumors referred to palliation[23]. The use of morphine at admission appears to reflect the necessity of stronger opioids to control pain[24] found in the population investigated. Morphine has already been prescribed by oncologic gynecology for the group that did not switched opioids in palliative care. In some cases, a strong opioid was switched for a weak one. Although the motives for opioid switching were not addressed in the present investigation, it is possible to assume that opioids weaning, in cases of pain control, can justify this type of clinic conduct[12].

Statistical significance was found in the analysis of the association between kidney failure and opioids switching. Gynecological tumors can lead to kidney complications because of innumerous intrinsic factors to tumor location that obstruct urinary tract and along the process can lead to hydronephrosis[25]. Past treatments as platinum-based therapy can trigger kidney failure, mainly in patients with comorbidities as hypertension and diabetes[26].

The use of opioids in oncologic patients with kidney failure is challenging for pain control. These drugs act directly and indirectly on the kidneys increasing the risk of acute renal failure, especially in poly-medicated patients in palliative care[27]. Therefore, there are different conducts in clinical practice with more frequent opioid switching as observed in this study, favoring the initial prescription of less toxic opioids for the kidney system and switching to stronger opioids to improve pain control[28,29].

The association between length of hospital stay and opioids switching was noticed because those with longer hospitalizations tend to switch opioids more frequently. Poorly controlled pain is one of the usual characteristics of women with gynecological tumors that may need opioids switching for prolonged periods of palliative care since a different opioid may help to control pain[24]. In addition, some patients may develop tolerance to opioids[28,29] and the multiprofessional team should evaluate the possibility of non-drug alternative therapies for pain control[6].

Palliative care for patients with gynecological tumors require a cautious approach due to its innumerous challenges, especially related to clinical conditions with significant impact on quality of life. The patients' profile revealed a few social vulnerabilities, many of them related to late diagnosis and multiple treatments, therefore, it is critical that a comprehensive palliative care is provided for physical and emotional aspects to ensure full patient-centered care[20].

Due to its cross-sectional design, the characterization of the pain in patients who did and who didn't switched opioids was one of the study limitations. As the pain scales adopted were not analyzed, the pain profile may have not been clearly identified for the patients who switched opioids further to poor characterization of the pain the patients have endured. Nevertheless, the results were able to reflect aspects not addressed in other studies and reinforce the importance of improving pain control strategies for the patients with kidney failure, mainly with approaches that increase the risk of kidney injury.

CONCLUSION

Opioids switching can be associated with kidney complications in patients with gynecological cancer in palliative care, a finding of the present study. In addition, an extended length of hospital stay was found for the study patients who switched opioids. It is known that opioids switching to control cancer pain in patients with primary gynecological tumors is essential for effective relief and improvement of the quality of life of these women. The best conduct health professionals should adopt is to be aware of the conditions that may difficult pain control to ensure safe pain management in patients with gynecological tumors in palliative care.

CONTRIBUTIONS

Beatriz Lorena Santana dos Santos contributed to the study design, acquisition, analysis and interpretation of the data and wording. Mario Jorge Sobreira da Silva contributed to the study design, acquisition, analysis and interpretation of the data. Gustavo Tavares Lameiro da Costa contributed to the analysis, interpretation of the data and wording. Maria Fernanda Barbosa contributed to the study design. All the authors approved the final version to be published.

DECLARATION OF CONFLICT OF INTERESTS

There is no conflict of interests to declare.

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REFERENCES

1. Organização Mundial da Saúde. CID-10: Classificação Estatística Internacional de Doenças e problemas relacionados à saúde. São Paulo: Edusp; 2008.
2. Bray F, Laversanne M, Sung H, et al. Global cancer statistics 2022: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 2024;74(3):229-63. doi: https://doi.org/10.3322/caac.21834

3. Teixeira C, Pereira AM, Anes E, et al. Evolução temporal da mortalidade por cancro do colo do útero em Portugal. Acta Med Port. 2019;32(6):427-33. doi: https://doi.org/10.20344/amp.8921
4. Sung H, Ferlay J, Siegel RL, et al. Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 2021; 71(3):209-49. doi: https://doi.org/10.3322/caac.21660
5. Santo MO, Lima FCS, Martins LFL, et al. Estimativa de incidência de câncer no Brasil, 2023-2025. Rev Bras Cancerol. 2023;69(1):e-213700. doi: https://doi.org/10.32635/2176-9745.RBC.2023v69n1.3700
6. Reyes MDF, Chen L, Patel K, et al. Palliative care utilization of gynecology oncology patients with advanced cancer (057). Gynecol Oncol. 2023;176:S48-9. doi: https://doi.org/10.1016/j.ygyno.2022.12.057
7. Tagami K, Chiu SW, Kosugi K, et al. Cancer pain management in patients receiving inpatient specialized palliative care services. J Pain Symptom Manage. 2024;67(1):59-70. doi: https://doi.org/10.1016/j.jpainsymman.2023.09.015
8. Holmes C, Mitchell A, Downham E. Palliative care in gynaecological oncology. Obstet Gynaecol Reprod Med. 2021;31(3):77-83. doi: https://doi.org/10.1016/j.ogrm.2021.01.002
9. Raja SN, Carr DB, Cohen M, et al. The revised International Association for the Study of Pain definition of pain: concepts, challenges, and compromises. Pain. 2020;161(6):1976-82. doi: https://doi.org/10.1097/j.pain.0000000000001939
10. Zhang H. Cancer pain management - new therapies. Curr Oncol Rep. 2022;24(2)223-6. doi: https://doi.org/10.1007/s11912-021-01166-z
11. Chelles PA, Oliveira LC, Couto LS, et al. Factors associated with neuropathic pain in cancer patients admitted to a palliative care unit. Rev Bras Cancerol. 2024;70(2):e-114603. doi: https://doi.org/10.32635/2176-9745.RBC.2024v70n2.4603
12. Sampaio SGDSM, Motta LB, Caldas CP. Rodízio de opioides: uma análise descritiva. Rev Bras Cancerol. 2021;67(2):e-011179. doi: https://doi.org/10.32635/2176-9745.RBC.2021v67n2.1179
13. Matsuo K, Machida H, Mandelbaum RS, et al. Validation of the 2018 FIGO cervical cancer staging system. Gynecol Oncol. 2019;152(1):87-93.
14. Rocha BM, Dolan RD, Paiva CE, et al. Inflammation and performance status: the cornerstones of prognosis in advanced cancer. J Pain Symptom Manage. 2023;65(4):348-57. doi: https://doi.org/10.1016/j.jpainsymman.2022.11.021
15. RStudio [Internet]. Version 2024.04.1+748. Boston: Posit Software, PBC. 2024 abr 1 - [acesso 2024 mar 1]. Disponível em: http://www.rstudio.com/ide
16. Rosa LM, Hames ME, Dias M, et al. Epidemiological profile of women with gynecological cancer in brachytherapy: a cross-sectional study. Rev Bras Enferm. 2021;74(5):e20200695.
17. 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 I:59.
18. Oliveira NPD, Cancela MDC, Martins LFL, et al. Desigualdades sociais no diagnóstico do câncer do colo do útero no Brasil: um estudo de base hospitalar. Ciênc saúde coletiva. 2023;29(6):e03872023. doi: https://doi.org/10.1590/1413-81232024296.03872023
19. Luiz ODC, Nisida V, Silva Filho AMD, et al. Iniquidade racial na mortalidade por câncer de colo de útero no Brasil: estudo de séries temporais de 2002 a 2021. Cienc saúde coletiva. 2024;29(3):e05202023. doi: https://doi.org/10.1590/1413-81232024293.05202023
20. Rosa LM, Hames ME, Dias M, et al. Perfil epidemiológico de mulheres com câncer ginecológico em braquiterapia: estudo transversal. Rev Bras Enferm. 2021;74(5):e20200695. doi: https://doi.org/10.1590/0034-7167-2020-0695
21. Tabuyo-Martin A, Torres-Morales A, Pitteloud MJ, et al. Palliative medicine referral and end-of-life interventions among racial and ethnic minority patients with advanced or recurrent gynecologic cancer. Cancer Control. 2023;30:10732748231157191. doi: https://doi.org/10.1177/10732748231157191
22. Fauci J, Schneider K, Walters C, et al. The utilization of palliative care in gynecologic oncology patients near the end of life. Gynecol Oncol. 2012;127(1):175-9. doi: https://doi.org/10.1016/j.ygyno.2012.06.025
23. Vetter VJ. Palliative care screening tools in the gynecologic oncology population: a narrative review. Ann Palliat Med. 2022;11(10):3263-72. doi: https://doi.org/10.21037/apm-22-728
24. Paice JA, Bohlke K, Barton D, et al. Use of opioids for adults with pain from cancer or cancer treatment: ASCO Guideline. J Clin Oncol. 2023;41(4):914-30. doi: https://doi.org/10.1200/JCO.22.02198
25. Mallappallil M, Bajracharya S, Salifu M, et al. Opioids and acute kidney injury. semin nephrol. 2021;41(1):11-8. doi: https://doi.org/10.1016/j.semnephrol.2021.02.002
26. Tang C, Livingston MJ, Safirstein R, et al. Cisplatin nephrotoxicity: new insights and therapeutic implications. Nat Rev Nephrol. 2023;19(1):53-72. doi: https://doi.org/10.1038/s41581-022-00631-7

27. Odoma VA, Pitliya A, AlEdani E, et al. Opioid prescription in patients with chronic kidney disease: a systematic review of comparing safety and efficacy of opioid use in chronic kidney disease patients. Cureus. 2023;15(9):e45485. doi: https://doi.org/10.7759/cureus.45485
28. Dale O, Moksnes K, Kaasa S. European palliative care research collaborative pain guidelines: opioid switching to improve analgesia or reduce side effects. a systematic review. Palliat Med. 2011;25(5):494-503. doi: https://doi.org/10.1177/0269216310384902
29. Swarn RA, Paice JA, Anghelescu DL, et al. Adult cancer pain, version 3.2019, NCCN clinical practice guidelines in oncology. J Natl Compr Canc Netw. 2019;17(8):977-1000. doi: https://doi.org/10.6004/jnccn.2019.0038

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