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Original Article

AVALIAÇÃO DA ADESÃO AO AUTOCUIDADO EM MULHERES SUBMETIDAS À BRAQUITERAPIA GINECOLÓGICA

EVALUATION OF WOMEN'S ADHERENCE TO SELF-CARE WHILE UNDERGOING GYNECOLOGICAL BRACHYTHERAPY

EVALUACIÓN DE LA ADHESIÓN AL AUTOCUIDADO EN LAS MUJERES QUE SE SOMETEN A LA BRAQUITERAPIA GINECOLÓGICA

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RESUMO

Objetivo: Avaliar a adesão das mulheres com câncer cervical às orientações de autocuidado relacionadas à braquiterapia. **Método**: Estudo longitudinal, realizado em um ambulatório de radioterapia na região centro-oeste, com mulheres com câncer cervical submetidas à braquiterapia. As participantes responderam ao questionário sobre adesão às orientações de autocuidado durante o tratamento. **Resultados**: Trinta mulheres com idade entre 22 e 76 anos participaram do estudo. Das 12 orientações, as pacientes reportaram adesão boa em seis (50%), moderada em quatro (33%), e baixa em duas (17%). Apenas sete (23%) das pacientes aderiram ao uso de dilatadores vaginais pós-braquiterapia para prevenção da estenose vaginal. Em média, as pacientes aderiram à nove das doze orientações recebidas. **Conclusão**: As pacientes apresentaram boa e moderada adesão para a maioria das orientações fornecidas. Sugere-se que intervenções educativas sejam implementadas para melhorar a comunicação visual e consequentemente melhorar a adesão às orientações de autocuidado em braquiterapia.

Descritores: Neoplasias do Colo do Útero; Braquiterapia; Constrição Patológica; Autocuidado; Consulta de Enfermagem.

ABSTRACT

Objective: To evaluate the adherence of women with cervical cancer to self-care guidelines related to brachytherapy. **Method**: A longitudinal study, performed in an outpatient radiotherapy clinic in the center-west region, with women with cervical cancer submitted to brachytherapy. Participants answered the questionnaire on adherence to self-care guidelines during treatment. **Results**: Thirty women between 22 and 76 years of age participated in the study. Of the 12 guidelines, patients reported good adherence to six (50%), moderate adherence to four (33%), and low adherence to two (17%). Only seven (23%) patients adhered to the use of post-brachytherapy vaginal dilators for the prevention of vaginal stenosis. On average, the patients adhered to nine of the twelve guidelines received. **Conclusion**: The patients showed good and moderate adherence to most of the orientations provided. Educational interventions should be implemented to improve visual communication and consequently improve adherence to self-care guidelines in brachytherapy.

Descriptors: Uterine Cervical Neoplasms; Brachytherapy; Pathologic Constriction; Self Care; Nursing office.

RESUMEN

Objetivo: Evaluar la adhesión de las mujeres con cáncer de cuello uterino a las pautas de autocuidado relacionadas con la braquiterapia. **Método:** Estudio longitudinal, realizado en una clínica de radioterapia ambulatoria en la región centro-oeste, con mujeres con cáncer de cuello de útero sometidas a braquiterapia. Las participantes respondieron al cuestionario sobre la adhesión a las directrices de autocuidado durante el tratamiento. **Resultados:** Treinta mujeres entre 22 y 76 años de edad participaron en el estudio. De las 12 directrices, las pacientes informaron de una buena adhesión en seis (50%), una adhesión moderada en cuatro (33%) y una baja adhesión en dos (17%). Sólo siete (23%) de las pacientes se adhirieron al uso de dilatadores vaginales después de la braquiterapia para la prevención de la estenosis vaginal. En promedio, las pacientes se adhirieron a nueve de las doce pautas recibidas. **Conclusión:** Las pacientes tuvieron una buena y moderada adhesión a la mayoría de las orientaciones proporcionadas. Se sugiere que se realicen intervenciones educativas para mejorar la comunicación visual y, por consiguiente, mejorar la adhesión a las directrices de autocuidado en la braquiterapia.

Descriptores: Neoplasias del Cuello Uterino; Braquiterapia; Constricción Patológica; Autocuidado; Enfermería de Consulta.

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INTRODUCTION

Cervical cancer (CC) is the fourth most incident cancer per year in Brazil and worldwide. However, the regions with the highest incidence rates are the least developed, for example, East Africa and Central America, and Latin America. In Brazil, the North Region has the highest incidence of CC with 22.47 cases for every 100 thousand women. CC is the fourth leading cause of cancer death among women in Brazil. In 2017, the mortality rate was 6.17 deaths for every 100 thousand women [1-2].

CC has a slow development and an accessible and low-cost screening method when using Oncotic Cytopathology (commonly known as Pap Examination). Therefore, it is susceptible to early detection of pre-invasive lesions, being treatable and curable in most cases. The etiology of this cancer is directly related to persistent genital infection by the oncogenic types of Human Papilloma Virus (HPV). Other factors can increase the risk of developing CC such as early menarche and early sexual activity, history of sexually transmitted infections, multiple sexual partners, not periodically undergoing a preventive exam, prolonged use of oral contraceptives, smoking, and low education [2-3].

The CC therapeutic plan is followed according to the tumor's staging, degree of invasive involvement to the adjacent structures, the clinical conditions, and the patient's decision, so that the multidisciplinary team aims to draw the most appropriate plan for each situation [3]. Therapeutic strategies for CC treatment include surgery, external (teletherapy), and internal (brachytherapy) radiotherapy and chemotherapy. These treatment modalities can be combined or not depending on the therapeutic plan. Brachytherapy is an important strategy in the treatment of CC, according to the Federation of Gynecology and Obstetrics (FIGO), women with locally advanced CC (IB2-IVA stages), in general, must have brachytherapy as part of the definitive therapeutic method. In specific cases of pre-invasive lesions when excision is not possible, brachytherapy is also recommended [3-4].

Radiotherapy uses ionizing radiation and has direct and indirect action on cellular components. In the direct action, there is specific interaction with Deoxyribonucleic Acid (DNA), proteins, and lipids, causing changes in their structures. In the indirect action, there is a cytotoxic effect through the formation of free radicals, from the water molecules in the body's tissues. High dose rate intracavitary brachytherapy uses robotic technology, which provides radiation by the Iridium isotope (192), with strategic points for pausing the radiation supply, depending on the tumor's disposition, which is planned and calculated based on the radiographic image of the pelvis at the time of treatment. Endovaginal applicators are used to route the conductive cables of the radioactive source in close contact with the tumor, preserving the adjacent healthy tissues [5].

Cellular damage from exposure to ionizing radiation commonly causes adverse effects. In brachytherapy, the main adverse effects are decreased vaginal elasticity and lubrication, libido and sexual satisfaction, loss of sensation in the clitoris, dyspareunia, vaginal stenosis, partial vaginal fibrosis, and metrorrhagia after sexual intercourse. The occurrence and severity of these adverse effects can cause the temporary or definitive interruption of treatment, interfering with exams, follow-up consultations, after the end of the treatment, and decrease the lubrication and compliance of the vagina for the practice of sexual intercourse [6- 7].

The team in the radiotherapy sector must early identify the development of these negative complications to minimize the occurrence of these adverse effects that affect these patients, as well as emphasize and teach self-care strategies to prevent and mitigate these harmful effects [8]. In general, patients receive self-care guidelines at the beginning of the brachytherapy and the patients' adherence to these recommendations is essential for the prevention and management of treatment complications. Monitoring women's adherence to the guidelines provided helps to verify the feasibility of the proposed guidelines and their assimilation. Thus, this study aimed to assess the adherence to self-care guidelines related to brachytherapy in women with cervical cancer.

METHOD

This is an observational, longitudinal study in which the population of interest was characterized by women with CC, who underwent brachytherapy in a High Complexity Assistance Unit in Oncology (UNACON) and who received self-care guidelines given by the nursing team. Currently, this unit is the reference center for brachytherapy in Brasília because it is the only public health service in the Federal District that offers gynecological brachytherapy.

This is a convenience sample in which all women assisted at the service who were diagnosed with CC whose therapeutic indication was brachytherapy. The inclusion criteria were: being literate, being 18 years old or older, having a diagnosis of CC (International Classification of Diseases ICD 10: C 53.9), having received guidance on self-care by the nursing staff during the first nursing consultation on the first day of treatment.

Data collection was carried out during four months in the service, from October 2016 to January 2017. The follow-up of patients was weekly, according to the service's routine and data on adherence were collected between the penultimate and last brachytherapy session.

After the indication of gynecological brachytherapy by the radiotherapist, the patient follows this itinerary in the service: first-time nursing consultation (when general self-care guidelines are provided to patients, including guidance on performing the Vaginal Dilatation Exercise - VDE), three to four brachytherapy sessions, with weekly frequency and a subsequent nursing consultation, in which the VDE guidelines would be reinforced. The recommendation for VDE was that the patient should perform vaginal incursions with a 20 mL syringe without a tip, coated with a condom and lubricated with a portion of water-soluble lubricant, at least three times a week, for three minutes.

The study participants were interviewed in the last brachytherapy session, in which sociodemographic data and on adherence to general guidelines for self-care were collected. The interviews lasted about 30 minutes and were carried out individually and reserved in the nursing office. Thirty days after the brachytherapy, another interview was conducted via telephone, lasting about 10 minutes, and aimed at collecting data on adherence to VDE.

The sociodemographic data collected were: age (in complete years), education (elementary, high school, university or post-graduation), professional status (unemployed, retired or salaried), family income (in minimum wages), marital status (single, divorced), widow, married or in a stable relationship), number of children (none, one to two, three to four or five to six), number of lifelong partners (one or multiple partners), condom use (yes or no), active sex life (yes or no). Clinical data were extracted from the patient's medical record and included: tumor staging (IB - Clinically visible lesion, limited to the cervix; II A - Tumor that invades beyond the uterus but does not reach the pelvic wall or lower third of the vagina, without parametric invasion; II B - With parametric invasion; III A - Tumor that affects the lower third of the vagina, without extension to the pelvic wall; III B - Tumor that extends to the pelvic wall or causes hydronephrosis or renal exclusion; IV A - Tumor that invades the bladder or rectal mucosa, or that extends beyond the real or indeterminate pelvis), previously performed treatments (teletherapy, chemotherapy or surgery) and type of applicator used in brachytherapy (ring and probe, cylinder and probe or ring).

The main interest was in adhering to each guidance received by institutional protocol: not having sex on the day before the brachytherapy session; do not apply oil, talc, or any cream to the treatment area without the nurse's guidance; do not swim in the sea or pool; do not expose the treated area to the sun; do not rub the treated area with a towel; do not scratch the treated area; wear comfortable, wide and cotton panties; take a shower in warm water; do not wear tight clothes, such as jeans and spandex, wash the pelvis area with moisturizing soap; and avoid using toilet paper when performing intimate hygiene. Also, adherence to VDE was evaluated to prevent vaginal stenosis after treatment, which consists of introducing a 20 mL syringe without a tip wrapped in a male condom with water-based lubricant, three times a week, once a day, lasting three minutes. To estimate the level of adherence, the percentage of women who reported “yes” in each guidance item was calculated. The level of adherence to the recommendations was categorized as: “good adherence” with at least 80% compliance with the recommendations, as “moderate adherence” from 50 to 79%, and as “low accession” with 49% or less.

The data analysis used descriptive statistics with measures of absolute frequency and proportion in the statistical program Statistical Package for Social Science (SPSS), version 22.0.

The research was approved by the Research Ethics Committee (CEP) of the School of Health Sciences of the University of Brasília (FS/UnB), under the opinion Certificate of Presentation of Ethical Appreciation (CAAE): 93130518.0.0000.5558. The patients who accepted to participate in the research signed the Informed Consent Form (ICF), according to the ethical guidelines established by Resolution 466, of December 12, 2012, of the National Health Council.

RESULTS AND DISCUSSION

The study evaluated the adherence of the self-care guidelines related to brachytherapy in women with CC. Twelve guidelines were evaluated, six of which were classified with good adherence. Thirty women with CC who underwent gynecological brachytherapy participated in the study. The mean age was 49 years old (SD = 15) and ranged from 22 to 76 years old. Most women, 19 (63%) had elementary education, 13 (43%) were unemployed and 22 (73%) had family income between one and two minimum wages. Seventeen participants (57%) were single, divorced, or widowed, 22 (73%) had one to four children, 16 (53%) had multiple partners throughout their lives, 22 (73%) did not use a condom when had some sexual intercourse and 11 (37%) reported being sexually active.

The most prevalent tumor stages were IIB and IIIB, with eight (27%) cases each. The most common previous treatments were: teletherapy, in 29 (97%) patients, with an average of 26 sessions, and chemotherapy in 27 (90%) patients, with an average of six sessions. All participants underwent four brachytherapy sessions and in 18 (60%) patients, the ring and probe applicators were used. Table 1 shows the sociodemographic and clinical characteristics of the participants.

Table 1 – Sociodemographic and clinical characterization of the sample (n = 30). Brasília, DF, Brazil, 2020.

Characteristics	n (%)
Education level	
Elementary school	19 (63)
High school	5 (17)
University	4 (13)
Post-graduation	2 (7)
Professional situation	
Unemployed	13 (43)
Retired	8 (27)
Paid employment	9 (30)
Family income *	
1 – 2 minimum wages	22 (73)
2 – 4 minimum wages	2 (7)
4 – 6 minimum wages	4 (13)
More than 6 minimum wages	2 (7)
Marital status	
Single, divorced, or widowed	17 (57)
Married or common-law marriage	13 (43)
Number of children	
None	2 (6)
1 to 2	11 (37)
3 to 4	11 (37)
5 to 6	6 (20)
Number of partners throughout life	
One partner	14 (47)
Multiple partners	16 (53)
Tumor staging	
I B	4 (13)
II A	2 (7)
II B	8 (27)
III A	2 (7)
III B	8 (27)
IV A	2 (7)
Indeterminate	4 (13)
Previous treatments †	
Teletherapy	29 (97)
Chemotherapy	27 (90)
Surgery	6 (20)
Type of applicator	
Ring and Probe	18 (60)

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Characteristics	n (%)

Cylinder and Probe	9 (30)
Ring	1 (3)
Information not found	2 (7)

Source: Prepared by the authors according to the data obtained in the research.
*****Minimum wage in Brazilian reais in 2016: R$ 880.00 (Source: Brazilian Institute of Geography and Statistics IBGE); † The same patient may have undergone more than one previous treatment.

The incidence of this type of cancer is more frequent in women with less favorable socioeconomic conditions, with lower educational levels, and poorer social class [9-10]. The low socioeconomic and educational level of the study participants is similar to the literature about the sociodemographic profile of patients with CC [11-12].

Brachytherapy for CC is often indicated for tumor regression. Despite the benefits of brachytherapy, adverse effects appear in the long term. The skin is an organ commonly affected in ionizing radiation treatments, mainly in teletherapy due to its high proliferation and tissue oxygenation [13], and to the impossibility of sparing this radiation organ. The patient with CC is generally submitted to two radiotherapy modalities (teletherapy and brachytherapy) and, in both, skincare approaches are fundamental.

During the follow-up of the study participants, 12 guidelines were provided in which nine were related to direct or indirect skincare, during brachytherapy and one was intended to be performed after treatment. Six general self-care guidelines (50%) were classified as good adherence and four (33%) as moderate adherence.

Two guidelines (17%) were classified as having low adherence: Avoid using toilet paper when performing intimate hygiene and performing VDE. We believe that the difficulty in not adhering to the first guidance is because not all Brazilian households have hygienic showers or bidets for intimate hygiene.

In addition to skin effects, radiation damages the vaginal epithelium, causing atrophy, loss of elasticity, stenosis, and decreased lubrication [7-14]. Patients may also experience vaginal discharge, bleeding, dyspareunia as factors that contribute to decreasing women's satisfaction and desire to have sex, increasing the chance of possible sexual dysfunction after treatment [7].

In the guidance to perform the VDE to prevent vaginal stenosis after brachytherapy, seven (23%) patients said they had performed the exercise and all used the 20 mL syringe as a dilator and used the water-based lubricant, but only four (13%) performed the exercise for three minutes, three times a week, as recommended. The reasons reported for non-adherence to VDE were: sexual activity, in which 13 (57%) women reported that they were sexually active, five (21%) did not find the exercise necessary, three (13%) said they had not received guidance and two (8%) were hospitalized. Table 2 shows the proportion of adherence for each guide and its classification.

Table 2 – Proportion of women who adhered to the guidelines and classification of adherence. Brasília, DF, Brazil, 2020.

Guidances	n (%)	Adherence
Not having sex, the day before the brachytherapy session.	30 (100)	Good
Do not apply oil, talc, or any cream to the treatment area without the nurse's guidance.	30 (100)	Good
Do not swim in the sea or pool.	30 (100)	Good
Do not expose the treated area to the sun.	29 (97)	Good
Do not rub the treated area with a towel.	27 (90)	Good
Do not scratch the treated area.	26 (87)	Good
Wear comfortable, wide panties made of cotton fabric.	21 (70)	Moderate
Take a shower with warm water.	20 (67)	Moderate
Do not wear tight clothes: jeans and spandex.	19 (63)	Moderate
Wash the pelvis area with moisturizing soap.	18 (60)	Moderate
Avoid using toilet paper when performing intimate hygiene.	8 (27)	Low
Perform vaginal dilation exercise.	7 (23)	Low

Source: Prepared by the authors according to the data obtained in the research.

Vaginal stenosis is the shortening and/or narrowing of the vaginal canal, according to Common Terminology Criteria for Adverse Events (CTCAE v3.0)[15] and is classified as an acute or delayed effect because it can occur in weeks or even 48 months after the end of radiotherapy [16-17]. Vaginal stenosis results from progressive and constant inflammation that can be induced by

ionizing radiation, teletherapy, and hormonal changes such as hypoestrogenism [16]. These changes are mainly caused by the increased production of collagen in the fibrous connective tissue, narrowing and shortening the vaginal canal, and requiring prevention to resolve its severity, as its occurrence can result in permanent vaginal changes [16]. Such atrophic changes in the vaginal mucosa are directly related to the development of sexual dysfunction in women undergoing brachytherapy [18]. In the literature, the incidence of vaginal stenosis varies from 2.5 to 88% [16].

VDE is recommended after the end of treatment to prevent vaginal stenosis in women undergoing brachytherapy [19-20], but there is still no consensus on its practice [16]. The benefits of VDE are not limited to maintaining the permeability of the vagina for sexual intercourse, but it also makes the gynecological exam less painful during follow-up visits [20-21]. In this study, there was low adherence to the VDE, with only seven (23%) participants reporting having done it and only four reported having done the exercise as guided. The justification reported by most of the participants about not performing VDE was the fact that they were sexually active, which is a positive factor for these patients. In the literature, studies report low adherence to the guidelines on VDE, and the adherence rate in the initial months after radiotherapy varies from 20 to 70%, with a decrease over time [16,22-23].

A limitation that may be associated with non-adherence to VDE is the lack of financial resources for the acquisition of malleable vaginal dilators and with formats more adjustable to the size and volume of the vaginal canal. In our service, we usually supply a 20 mL syringe without the tip, as this is the only resource available in the service to provide to patients. As much as it is an alternative to perform VDE, it does not show conditions favorable to adherence because it is a rigid device of size and volumes that may not always correspond to the patient's vaginal canal. Another limitation of this study was the short follow-up of patients, that is, we only followed up to find out about adherence to VDE, 30 days after the end of brachytherapy. As vaginal stenosis is a change that occurs in weeks, even months after the end of radiotherapy, a longer and more frequent follow-up is recommended. Our suggestion for follow-up would be 1 month, 3 months, 6 months, and 1 year, after the end of treatment as patients may feel more motivated when they notice the team's concern with vaginal stenosis. For this reason, closer monitoring in the first months could help them in the adherence process.

CONCLUSION

In this study, the adherence degree to general self-care guidelines related to brachytherapy and vaginal dilation exercise was evaluated in women undergoing treatment for cervical cancer. Six guidelines were classified as having good adherence, four with moderate adherence, and two with low adherence. The participants reported having adhered, on average, to nine guidelines.

The general self-care guidelines classified with good adherence were: not having sex on the day before the brachytherapy session; do not apply oil, talc, or any cream to the treatment area without the nurse's guidance; do not swim in the sea or pool; do not expose the treated area to the sun; do not rub the treated area with a towel and do not scratch the treated area. The guidelines classified with moderate adherence were regarding the use of clothing and bathing. Two guidelines were classified as having low adherence: avoid using toilet paper when performing intimate hygiene and performing VDE.

Although the adherence of women was classified as good to moderate in most guidelines, it is important that nursing always thinks of strategies to improve the bond with patients since these topics are so intimate and need to establish a reliable relationship. Another important strategy is the development of educational technologies, such as illustrated guidebooks, videos, and mobile applications to be more friendly and easy to consult means of communication to facilitate self-care adherence to women undergoing brachytherapy.

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