Implemented Improvement: Medication Error Prevention

Melhoria Implementada: Prevenção de Erro de Medicação

Mejora Implementada: Prevención de Errores de Medicación

RESUMO

O erro de medicação é sobretudo um evento evitável. A imensa oferta de antiretrovirais3 com nomes complexos e frascos semelhantes, preocupa a assertividade da dispensa e uso do coquetel. Objetivo: é descrever as contribuições da estratégia de prevenção de erros de dispensa de medicamentos antiretrovirais para pessoas HIV positivos no trabalho da enfermagem. Método: é um relato de experiência na organização e dispensação de antiretrovirais para 47 pacientes HIV positivos no setor de IST/HIV/Aids de Prudentópolis/PR. Resultados e Discussão: Com a finalidade de minimizar os riscos de erro e agilizar o serviço, organizou-se um sistema de cores e letras que correlaciona os coquetéis e os pacientes e intensificou-se a escuta ao paciente. Os medicamentos vêm mensalmente/bimestralmente do SAE de Guarapuava/PR. Após a conferência são separados em pacotes opacos e etiquetados com o primeiro nome do paciente na mesma cor padronizada do coquetel de uso. Ex: (3 em 1 = A –vermelho); (Tenoforir/Lamivudina + Dolutegravir= B –verde), etc. Conclusão/Considerações Finais: Depois de identificar o risco de erros, aplicou-se os sistemas de identificação por cores e letras, tornando a organização mais rápida e a dispensa mais segura e que, também, facilitou ser reconhecida pelo paciente. Bem como intensificou-se a escuta ao paciente. Comprovando que a profissão de Enfermagem pode fazer a diferença na eficácia do resultado dos tratamentos antiretrovirais.

DESCRITORES: HIV; Prevenção; Erro de medicação; Antiretrovirais.

ABSTRACT

Medication errors are, above all, preventable events. The vast supply of antiretrovirals3 with complex names and similar vials is a concern regarding the accuracy of dispensing and using the cocktail. Objective: to describe the contributions of the strategy to prevent errors in dispensing antiretroviral drugs for HIV-positive individuals in nursing work. Method: this is an experience report on the organization and dispensing of antiretrovirals for 47 HIV-positive patients in the STI/HIV/AIDS sector of Prudentópolis/PR. Results and Discussion: In order to minimize the risk of errors and streamline the service, a color and letter system was organized to correlate the cocktails and patients, and patient listening was intensified. The medications are delivered monthly/bimonthly from the SAE of Guarapuava/PR. After checking, they are separated into opaque packages and labeled with the patient's first name in the same standardized color as the cocktail used. Ex: (3 in 1 = A – red); (Tenoforir/Lamivudine + Dolutegravir = B – green), etc. Conclusion/Final Considerations: After identifying the risk of errors, color and letter identification systems were applied, making organization faster and dispensing safer, and also making it easier for patients to recognize. Listening to patients was also intensified. Proving that the nursing profession can make a difference in the effectiveness of antiretroviral treatment results.

DESCRIPTORS: HIV; Prevention; Medication error; Antiretrovirals.

RESUMEN

El error de medicación es, sobre todo, un evento evitable. La gran oferta de antirretrovirales con nombres complejos y frascos similares preocupa la exactitud de la dispensación y el uso del tratamiento. Objetivo: Describir las contribuciones de la estrategia de prevención de errores en la dispensación de medicamentos antirretrovirales para personas VIH positivas en el trabajo de enfermería. Método: Es un relato de experiencia en la organización y dispensación de antirretrovirales para 47 pacientes VIH positivos en el sector de ITS/VIH/SIDA de Prudentópolis/PR. Resultados y Discusión: Con el fin de minimizar los riesgos de error y agilizar el servicio, se organizó un sistema de colores y letras que correlaciona los cócteles y los pacientes, y se intensificó la escucha al paciente. Los medicamentos llegan mensualmente/bimestralmente del SAE de Guarapuava/PR. Después de la verificación, se separan en paquetes opacos y se etiquetan con el primer nombre del paciente en el mismo color estandarizado del cóctel de uso. Ej.: (3 en 1 = A –rojo); (Tenofovir/Lamivudina + Dolutegravir = B –verde), etc. Conclusión/Consideraciones Finales:

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Después de identificar el riesgo de errores, se implementaron los sistemas de identificación por colores y letras, lo que hizo que la organización fuera más rápida y la dispensación más segura, además de facilitar el reconocimiento por parte del paciente. También se intensificó la escucha al paciente, demostrando que la profesión de Enfermería puede marcar la diferencia en la eficacia de los tratamientos antirretrovirales.
DESCRIPTORES: VIH; Prevención; Error de medicación; Antirretrovirales.

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INTRODUCTION

Medication errors can have consequences ranging from mild or no consequences to death and are "defined as a preventable event that occurs at any stage of drug therapy." [1] The National Coordinating Council for Medication Error Reporting and Prevention has expanded the definition of medication error to "any preventable event that may cause or induce inappropriate medication use or patient harm while the medication is in the care of a healthcare professional, patient, or consumer. Such events may be related to professional practice, products, procedures, and health systems, including prescribing, communication between professionals, labeling, packaging, nomenclature, compounding, dispensing, distribution, administration, education, monitoring, and use." [2]

Among the many conditions that afflict humans and that require medical treatment is HIV. HIV treatment is done with antiretrovirals and there is currently a wide range of these medications available [3] with complex names, making it difficult for professionals and patients to understand the name of the medicine, which can be confused by similar bottles, generating concern about the assertiveness of dispensing and correct use of the cocktail.

Incorrect use or inappropriate switching of antiretroviral therapy (ART) can have serious consequences for the patient's health and for the control of HIV infection. Some of these consequences include: Development of Viral Resistance, Failure to Control Infection, Health Complications, Drug Interactions, and Psychological and Social Impact. [4]

According to researchers at Fiocruz [5] the virus can develop resistance to antiretroviral therapy for three main reasons: "the very nature of the genetic diversity of the virus, which is a highly mutant microorganism; lack of adherence to treatment and administration of suboptimal doses of the drug, because when the individual does not take the medication correctly, the drugs do not have the expected effect and the virus becomes resistant to them; and the failure of the patient's immune system, which allows the virus to escape due to the collapse of the defense system". Therefore, in the case of a medication error, if the user takes the wrong medication, this can also generate resistance to the therapy.

Resistance to antiretroviral drugs will lead to therapeutic failure and, consequently, may transmit these resistant viruses to other people. [4] Another consequence will be an increase in the HIV viral load in the user's blood, requiring a new treatment regimen, which may be more expensive and, in many countries, difficult to access. This situation is a concern for frontline organizations, such as the WHO, which has asked countries to address resistance to HIV drugs by "monitoring the quality of their treatment programs" and taking immediate action if they identify treatment failure. [4] The author also emphasizes that the consequences of the increase in resistance to antiretroviral drugs against HIV are an increase in infections and deaths.

OBJECTIVE

To describe the contributions of the strategy for preventing errors in the dispensing of antiretroviral medications for HIV-positive people in nursing work.

METHOD

This is a descriptive study, a report of the experience in the organization and

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dispensing of antiretrovirals, carried out in the STI/HIV/AIDS sector of Prudentópolis/PR. The time analyzed covers the beginning of the implementation in March 2020 until June 2024. At the time of preparation of this work, there were 47 HIV carriers registered in the sector. There are eight different types of cocktail combinations in the municipality, which combine the following medications (image 01): Tenofovir_Lamivudine_Efavirenz, Tenofovir_Lamivudine, Dolutegravir, Zidovudine_Lamivudine, Nevirapine, Atazanavir, Ritonavir and Darunavir. A nurse works in the sector with a 20-hour weekly workload, whose functions are, among others, to request, organize, dispense medications and monitor users. The cocktails are delivered every two months and clinical monitoring, with laboratory tests, including viral load and CD4, is performed every six months. The medications are requested from the SAE (Specialized Care Service), which is located in the neighboring city of Guarapuava/PR. This experience report was not submitted to the CEP, as it does not involve human beings.

RESULTS AND DISCUSSIONS

During the execution of activities in the STI/HIV/AIDS sector, difficulty was encountered in memorizing the names of antiretrovirals [3] and differentiate them from each other, and even memorize the names of users and their respective drug therapies for sporadic care. The time to separate the medication generated tension and in order to increase concentration, isolation was sought. However, the demand for functions required speed. But how to speed up and maintain safety at the same time?

Over time, we get to know users better and demystify prejudices that are fundamental to the success of therapies. One of them is the belief that all patients were literate or capable of independently managing their medication intake. For the professional to be able to carry out the educational process effectively, it is essential that the user has autonomy, ceasing to be a mere spectator, assuming the "role of co-producer of care." [6] In this way, the user exchanges knowledge with the professional, presenting the different factors that lead to decision-making. The author concludes that there is a positive result in the user's life when educational practices in health add to the empowerment of the individual's self-care. [6] However, it is essential to identify at what point the user is in terms of their empowerment, whether they are truly capable of managing their self-care.

Patient adherence to treatment is a determining factor in controlling chronic diseases and health problems [7] and is defined by the coincidence between health advice, medication use behavior, guided lifestyle and attendance at scheduled appointments. Adherence to treatment involves many factors and requires the health professional to understand the real needs of the user, considering the influences on adherence to treatment of chronic diseases, such as, "illiteracy, low socioeconomic status and low self-esteem" [8] and even the presence of symptoms is a potential factor that encourages adherence. [9]

Packaging also became a problem, firstly because some users learned to recognize medications by the size of the bottle rather than by the name of the medication, and secondly because the bottles were very similar: white, with a white and green label (image 01), only the name of the medication changed, or in other situations, the size of the bottle of the same medication varied. The user referred to the medication as "the one in the small jar with the one in the bigger jar". One of the users returned to the sector complaining that the medication had been switched, after checking and confirming that it was correct, he insisted, saying that the bottle was smaller than the one he was taking. It was clarified by showing that the same medication can have bottles of different sizes. Concerned about patient safety, the World Health Organization (WHO) published in 2021, the Global Action Plan for Patient Safety 2021-2030, with the objective of: "eliminating preventable harm in health care". [10] He pointed to the labeling, packaging and nomenclature of medicines as factors that can cause medication errors and possible harm to patients. [11] In the United States in 2014, a quarter of all medication errors were due to names that were similar in spelling or sound, and 33% were due to confusion with packaging and/or labels, resulting in thousands of deaths and millions of dollars in costs each year. [12]

The practice of showing the cocktails to everyone, explaining everything one by one and asking how they were doing it, even if they claimed to know how, was adopted. This practice revealed more users who were taking the wrong medication. During the medication dispensing, the user who was supposed to take two bottles to consume the contents of both bottles in the month, wanted to return one because he still had some at home. He simply wasn't taking one pill from each bottle daily; he hadn't understood that it was necessary to take both pills. Sensitive listening and open dialogue allow the nurse to have a relationship of trust with the user, since the practice of listening and dialogue provides an emotional relationship, so that the bond established is expressed through the sharing of knowledge, coexistence, help and mutual respect between professional and patient.[13] Allowing the user to express their truth, not the truth we want to hear, and at this moment it is possible to identify the flaws in the intake of medication.

In view of these difficulties, to minimize the risk of error and speed up the service, a system of colors and letters was organized that correlates the cocktails and the users. The medications for the STI_HIV/AIDS sector in Prudentópolis/PR come monthly/bimonthly from the SAE in Guarapuava/PR. After checking, they are separated into opaque packages and labeled with

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the user's first name in the same standardized color as the cocktail used. In Prudentópolis, the following correspondences of Cocktails, Letters and Colors were standardized (image 01): (3 in 1 = A – red); (Tenoforir/Lamivudine + Dolutegravir = B – green, C), (Zidovudine/Lamivudine+Efavirenz = D - yellow), (Tenoforir/Lamivudine + Atazanavir + Ritonavir = E - light blue), Zidovudine/Lamivudine+ Atazanavir + Ritonavir = F – pink), (Tenoforir/Lamivudine + Darunavir + Ritonavir = G – orange) and (Dolutegravir + Darunavir + Ritonavir = H – dark green). The color choices were random, seeking contrasts, avoiding colors that are too close. When finishing the color palette, return to the initial colors, but in darker tones. At this point, the letter of the alphabet helps to avoid confusion, for example light green with dark, in case of printing with weaker ink. The chances of confusion are reduced by correlating them with the letters of the alphabet, for example: light green B with dark green H. The correlation with the letters of the alphabet began with the cocktails with the highest demand to the lowest. The advantages of organizing them this way are practicality, speed and safety. And users feel safer because they know the color of their label, identifying a change more quickly in case of a mistake.

FINAL CONSIDERATIONS

This report on the experience of an antiretroviral error prevention strategy carried out in the STI/HIV/AIDS sector of Prudentópolis/PR, shed light on potential weak points for intervention.

The weak points were: lack of autonomy in medication management, prejudices regarding expectations regarding self-care, complex medication names, similar packaging, and high service demands.

To combat these weak points, non-judgmental listening was used, with respect and a focus on improving treatment adherence. In this way, a relationship of trust was established with the user, identifying erroneous intakes and suggesting strategies for correction, practicing health education, and strengthening the user's empowerment in relation to self-care.

To minimize errors due to complex medication names, similar packaging, and to streamline the sector's activities to meet service demands safely, color and letter identification systems were applied for the cocktails. This system made organization faster and dispensing safer, and it also made it easier for patients to recognize the medication. Organizing/separating medications became less stressful. After implementing this system, there was only one incorrect dispensing due to the patients' names being too similar, which was immediately identified by the user and corrected without compromising the user.

This system can be adapted to other drug standards that are commonly used, including those in sectors other than IST_HIV/AIDS, such as hospital sectors. In the latter, it is suggested that drugs with similar names be differentiated by color. This label can be managed by the hospital itself, for example: similar substances BUpivacaine, local anesthetic (in red) and ROpivacaine, local anesthetic (in green); Substances without similarity DEXmedetomidine, sedative and anesthetic adjuvant (in red) and DEXamethasone, anti-inflammatory (in green); or by drug classes, such as Antibacterials (A = red), Antipyretics (B = green), Antidepressants (C = purple), etc.

Nursing proved to be fundamental in identifying therapeutic failures due to medication errors by listening to users' reports and organizing dispensing.

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Image 01

Fonte: Horvatich, 2024[14]

Image 02

Fonte: o autor (2025)

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