

Educational intervention in the management of waste from health services in primary care

Intervenção educativa no manejo de resíduos de serviços de saúde na atenção básica

Intervención educativa en el manejo de residuos de servicios de salud en la atención básica

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This study aims to describe the experience of an intervention on the management of medical waste in a family health unit. This is an experience report, divided into 4 steps: knowledge of routine, update of the Plan of Medical Waste Management, continuing education and evaluation, carried out from March to June 2018. A team considered itself unprepared to follow the steps in the management of medical waste proposed by the Medical Waste Plan Management of the unit. The actions were carried out through continuing education with both teams and meetings with network professionals and other employees of the unit. After the intervention, it was observed changings in the habit related to the management of the medical waste and intention to continue the improvement of the medical waste management, being satisfactory the management of the waste after the intervention.

Descriptors: Medical Waste; Education, Nursing, Continuing; Traineeships; Primary health care.

Este estudo tem como objetivo descrever a experiência de uma intervenção quanto ao gerenciamento de resíduos de serviços de saúde em uma unidade de saúde da família. Trata-se de um relato de experiência, dividido em 4 etapas: conhecimento da rotina, atualização do Plano de Gerenciamento de Resíduos de Serviços de Saúde, educação permanente e avaliação, realizados no período de março a junho de 2018. A equipe considerava-se despreparada para seguir as etapas do manejo de resíduos de serviços de saúde propostos pelo Plano de Gerenciamento de Resíduos de Serviços de Saúde da unidade. As ações foram realizadas através da educação continuada com as duas equipes e reuniões com os profissionais da rede e outros funcionários da unidade. Após a intervenção foi observado modificações no hábito relacionado ao manejo dos resíduos de serviços de saúde e intenção de continuidade de melhorar o gerenciamento dos resíduos, sendo satisfatório o manejo dos resíduos após a intervenção.

Descritores: Resíduos de serviços de saúde; Educação continuada em enfermagem; Estágios; Atenção primária à saúde.

Este estudio tiene como objetivo describir la experiencia de una intervención en la gestión de residuos de servicios de salud en una unidad de salud de la familia. Se trata de un relato de experiencia, dividido en 4 etapas: conocimiento de la rutina, actualización del Plan de Gestión de Residuos de Servicios de Salud, educación permanente y evaluación, realizados en el periodo de marzo a junio de 2018. El equipo se consideraba sin preparo para seguir las etapas del manejo de residuos de servicios de salud propuestos por el Plan de Gestión de Residuos de Servicios de Salud de la unidad. Las acciones fueron realizadas a través de la educación continuada con los dos equipos y reuniones con los profesionales de la red y otros funcionarios de la unidad. Después de la intervención fue observadas modificaciones en el hábito relacionado al manejo de los residuos de servicios de salud e intención de continuidad de mejorar la gestión de los residuos, siendo satisfactorio el manejo de los residuos después de la intervención.

Descriptorios: Residuos sanitarios; Educación continua en enfermería; Pasantías; Atención primaria de salud.

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INTRODUCTION

Medical Waste Services (RSS) are defined as those generated in all types of health care, such as basic health units (BHU), hospitals, veterinary clinics, laboratories, pharmacy, as well as services of tattoos and acupuncture and similar services¹.

In Brazil, in 2016, 256,238 tons of RSS were collected, with reduced generation of 1.5% over the previous year, and 4,495 municipalities provided the collection services².

In order to protect human and environmental health, the Director's Collegiate Resolution n.306/2004 and n.358/05 were created by the National Health Surveillance Agency (ANVISA) and the National Environmental Council (CONAMA), respectively, for the management of RSS becomes regulated and practiced necessarily, through the Management Plan for Health Service Waste (MPHSW), from its production to the final destination³.

The MPHSW is a document that should be developed and implemented across HBUs, responsible for the service. This document describes actions, assignments and responsible for the management of the waste generated, according to the physical infrastructure, human and material resources. Furthermore, points out in detail the management steps: generation, segregation, packaging, identification, collection, storage, transportation, treatment and waste final disposal³.

In HBUs there are environments that deserve importance in relation to the waste generation, according to the volume and dangerousness, as vaccine room, dressing room, pharmacy, dental clinic, nursing clinics, doctors' offices, triage room, procedure room, and nebulization room^{4,5}.

RSS are classified as follows: Group A (potentially infectious waste); B (chemical residues); C (radioactive waste); D (common waste) and E (sharps waste). Disposal of this waste should follow the steps of management, as in the absence of a systematization, the risks of occupational accidents and

environmental health increase, and harm the community health^{5,6}.

Segregation and packaging of RSS are important to keep the waste separated in suitable containers, according to the law, with appropriate capacity. In cases where the containers are improvised, occupational risk increases, compromising the health of workers. So it is important that health services are equipped with appropriate containers to segregate and pack each type of waste, which is accustomed to identify these materials and a routine for transport, associated with the appropriate physical conditions of the environment⁶.

The external storage should be under protection, in suitable collecting containers, with easy access to the collecting vehicles. And yet, to be unique environments, secure and conducive to cleaning. The final disposal of RSS depends on its risk potential and waste group, which should be subjected to prior treatment for final disposal³.

Given the above, it is observed that the implementation of PGRSS is a complex process, but necessary due to waste diversity, physical conditions of the environment and number of professionals involved in the steps, and often fail to be managed correctly by lack of material resources, infrastructure or knowledge. Among the responsibilities of a family health team, it includes to elaborate promotion and prevention strategies of health related to the correct management of waste, with consequent reduction of risks of occupational accidents and environmental preservation^{5,6}.

Thus, the report aims to describe the experience of an intervention on the management of medical waste in a Family Health Unit.

METHOD

This is a survey-type experience report that corresponds to an intervention project developed, focusing on RSS management, which addresses academic experience of the ninth period of Nursing in supervised training in public health.

The activity was held in the period from March to June 2018 in a FHU in the city of

Uberaba-MG. The unit consists of two health strategies of the family, with each consisting of a doctor, a nurse, a nursing technician, a dentist, an oral health assistant and five community health agents. Also, it has a network nurse, a network nursing technician, a network psychologist, a social worker of the Family Health Support Center (NASF), an occupational therapist from NASF, a general services assistant, four receptionists and two night guards.

The intervention took place in four steps: first, the academics knew the routine of the unit; in a second moment, an updating of the PGRSS was proposed; after the update, along with the family health team, continuing education was held on the topic; and finally there was a change in behavior and an evaluation questionnaire was applied.

In continuing education, the following topics were discussed: waste groups and examples of each one; management of medical waste services; PGRSS of the unit; occupational accidents; use of Equipment of individual protection - EPI; relation to health surveillance; and finally, a setting dynamic about the group examples of waste. The meetings were held on Tuesdays and Wednesdays, lasting two hours each.

In the questionnaire, issues related to the theme were elaborated, with topics related to what was stated in continuing education. It was composed of two questions, the first being true or false with 10 alternatives about waste management, and the second, an open question for professionals to leave their opinion on the effectiveness of the intervention and intention to continuity.

To establish the results of this experience report the evaluation instrument records were read and observed the professionals behavioral changes from what had been discussed in the meetings. In addition, the field book of the academics were used, in which the daily activities of the stage were described.

RESULTS

Purpose of PGRSS in the academic context

The supervised training of the teaching methodology of the nursing course made

possible that the academics did a situational diagnosis of the FHU to identify possible problems and, consequently, achievement of an intervention on the topic chosen.

RSS management becomes important in health as a whole. This fact provided a critical eye on the problem where it was possible to observe the importance of correct management in the health of the community, the economic aspects of the generator and especially in environmental health. Therefore, the need of educational intervention on the subject was observed with all unit staff.

It was noticeable that the team considered themselves unprepared to follow satisfactorily the steps of the medical waste management proposed by the PGRSS of the unit. Before its interdisciplinary character, the groups of waste generated in the unit in each room and by each professional were identified. In addition, health professionals have proved outdated on the subject, and the other team members were unaware of the complexity of the mismanagement of such waste.

Thus, to complete the step of the situational diagnosis the update of the medical waste management plan of the FHU was carried out. The document was presented to the entire team and modified according to the routine of each group of professionals and unit.

The document has been updated and consists of: introduction, in which it is explained the proposal and points out the general and specific objectives; job and professional descriptions; characterization of the establishment; chart; urban and health structure; physical structure; team responsible for implementation; trainings; waste management, with topics related to segregation, packaging, identification, storage and collection.

Educational actions regarding the medical waste management

Educational activities were carried out through continuing education, in four meetings, with the two family health teams and meetings with network professionals and other workers of the unit.

At the first meeting, the PGRSS of the unit was exposed and discussed the changes and adaptations needed. In the second meeting the concepts of waste groups were presented, using educational materials for better viewing, such as posters with images and statements objects.

At a third meeting, the medical waste management was approached by exposing its stages: separation, packaging and identification; collection and internal transport; internal, external and temporary storage; final destination. In this part, the waste groups found in the unit, the bags suitable for each group, the envisaged containers for packaging, the flowchart for the waste transport, storage, the companies responsible for final disposal of each waste and the economic aspects were presented.

In the last meeting, an educational activity related to occupational accidents that may be caused by incorrect handling of waste, use of PPE in the management steps, relationship with health surveillance and a fixation dynamics were carried out. The last one corresponded to the exhibition of objects that exemplified everyday situations of the service at HFU and their respective segregation groups.

Reflection of intervention in professional conduct

In some passages of the reports in a field book, the students described situations in which professionals would discard any waste in improper trash and soon realized the error, making the disposal to the correct recycling bin. In other reports, it was observed the satisfaction of the professionals with the subject addressed in continuing educations and meetings, classifying it as unknown, especially by professionals who are not from the health area, but necessary in relation to economic, community health and reduced generation of contaminated waste.

In the assessment tools, it was possible to observe the knowledge on the classification of waste groups, segregation, packaging, identification, collection and transportation. It was identified that the main difficulty is related to the waste classification of group B, which are chemical products, such as dental

amalgam, and the ways of disposal. In addition, concern has been raised about the environmental health and contamination of ordinary waste.

Furthermore, it was possible to stimulate critical thinking in face of the FHU problems related to the theme. In one of the reports from the field book, the academics helped the general services assistant to develop her career plan with a health education on RSS for the users.

DISCUSSION

In 2004, the Ministry of Health established the National Policy of Permanent Education, through Ordinance N.198, as a professional qualification strategy. Therefore, it is an important action in order to improve services and health practices and contribute to a space to promote reflections on the needs of workers, users and institution⁷.

Hence, the importance of the curriculum guidelines of undergraduate nursing course also focus on the critical need to train professionals able to develop communication, leadership and continuing education^{7,8}.

In order to avoid errors, the management of RSS should be done in the best way, to follow the steps of segregation, packaging, collection, storage and disposal. Therefore, continuing education is seen as the best way to create a continuous learning on the subject, covering the whole multidisciplinary team, since all workers in the unit must know the practices involved in PGRSS^{9,10}.

In addition, the professionals themselves, after trained, are responsible for implementing the PGRSS and are the main cause of environmental or economic disruption generated by mismanagement. From the educational actions, learning can be used in various health institutions these professionals work¹¹.

Currently, some health professionals are still out of date on issues involving environmental health. Hence, the importance of the awareness that the issue becomes critical, since vocational training, especially for the daily amount of RSS generated¹².

In the waste management context, the nurse is the healthcare professional with the highest volume of RSS generated in institutions. Therefore, he becomes one of the professionals able to elaborate the PGRSS, before his participation in health prevention and promotion, and especially as a team leader, who coordinates the care and permanent education^{13,14}.

CONCLUSION

The significance of this work is due to the fact that a correct plan of medical waste management essential in the environmental health of users and workers. In addition, the exposure that an educational intervention shows itself enough to improve the professional approach to the problem.

Thus, this report becomes significant, where it was possible to observe how health professionals are still unaware of the issue and that many do not appreciate the lack of information and knowledge. And yet, that lifelong learning contributes positively on workers' behavior change on the medical waste management services.

As for contributions to the academics, this report highlights the involvement as the environmental aspects of health and as the economic aspects, since the implementation of PGRSS decreases the generation of infectious waste. In addition, communication and leadership aspects were developed by continuing education.

However, a limitation of this study was the lack of material resources involved in the correct management of RSS, which become essential for implementation of PGRSS in the family health unit in question.

This report opens up alternatives to carry out this type of intervention and research in other units and health institutions, and, therefore, to develop critical thinking for proper medical waste management.

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CONTRIBUTIONS

Anna Luiza Salathiel Simões and **Lais Elias Teodoro** participated in the conception, project, data analysis and interpretation and writing. **Maysa Alvarenga Ferreira, Karina Santos da Silva** and **Álvaro da Silva Santos** participated in the writing and review.

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