

La gestión de residuos sólidos hospitalarios. Una mirada educativa desde las políticas públicas en Perú

Management of hospital solid waste. An educational view from public policies in Peru

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RESUMEN: La promoción de la salud, es objeto de la salud pública y de la sociedad, en la construcción de políticas públicas que permitan mejorar sus estándares de calidad, relacionados con el manejo de residuos sólidos. De ahí que el objetivo de este estudio esté dirigido a profundizar en la gestión de residuos sólidos, desde una mirada educativa de las políticas públicas, en función de reducir los riesgos para la salud de la comunidad hospitalaria, en el Perú. Se utilizaron métodos como el análisis-síntesis, inducción- deducción, la revisión de documento y el método PRISMA 2020.

Palabras clave: Gestión de residuos sólidos; Educación en políticas públicas; Servicios de salud pública

ABSTRACT: Health promotion is the object of public health and society, in the construction of public policies that allow improving quality standards, related to solid waste management. Hence, the objective of this study is aimed at deepening solid waste management, from an educational perspective of public policies, in order to reduce the health risks of the hospital community, in Peru. Methods such as analysis-synthesis, induction-deduction, document review and the PRISMA 2020 method were used.

Keywords: Solid waste management; Education in public policies; Public health services

Introduction

The protection and promotion of health, as well as the prevention of disease, is the object of public health, with the participation of the rest of society, taking into account the needs of all people, regardless of their place of birth, age, sex, social or economic status, and the cultural, social and religious customs that may exist.

The approach to health requires the participation of agents in the construction of public policies: intersectional and multilevel coordination, individual or collective citizen participation, scientific, professional and patient societies, non-governmental organizations, universities, research centers.

Because of its social conditioning, cross-cutting and integrative approach, it is in line with the 2030 Sustainable Development Goals (ON, 2015), as a commitment to the necessary improvement of global health. Hence, beyond the health sector itself, the field of action and collaboration is extended to multiple areas that, in some way, have an impact on health and without which the intervention of these factors would be, at the very least, difficult or incomplete.

For this reason, health services are currently called upon to improve their quality standards, related to the sanitary, environmental and economic management of their processes, influencing a change in behavior towards the achievement of a hygienic culture for the management of solid waste in health care institutions, not only to control it, but also to reduce it.

In Mexico, solid waste management policies in urban areas have been analyzed, which have contributed to greater efficiency at the national and municipal levels. In Ecuador, an awareness program was also implemented, with 70 % of health facilities receiving education and training on proper solid waste disposal. In Nicaragua, 84% had basic knowledge, of which only 49% understood the process correctly (Saavedra, 2023).

During the Pandemic years, a worldwide reality became evident: the need to pay more attention to the educational management of solid waste. Hence, the World Health Organization (WHO) conducted an analysis on this scale, concluding that health workers do not use adequate PPE (Personal Protective Equipment), according to the stage of risk to which they are exposed, nor do they take into account the environmental and climatic consequences or impacts caused by the generation and segregation of waste (WHO, 2022).

It was also possible to observe an increase in solid hospital waste during this period, with deficiencies in its management, from inadequate intermediate disposal sites within health facilities to the lack of personnel in charge of it (PAHO, 2023).

In Peru, the reality is not different from the aforementioned countries; health facilities do not have the economic resources, nor the efficient personnel and infrastructure to adequately manage this waste from the point of view of health promotion and disease prevention. The lack of cleaning and

maintenance equipment prevents health and sanitation practices from allowing good management and maintenance of health facilities. (Giribaldi, 2022)

Health services in Peru generate large amounts of solid waste, which is very dangerous for human health and for the workers themselves. This indicates the need for training and education for the handling and management of solid waste, from its transfer to intermediate and final procedures. (Giribaldi, 2022)

This led to the development of technical standards that all health facilities are obliged to comply with, but in practice few are aware of them and they are not applied. Hence the need to review public policies dedicated to a central issue for Peruvian society. Insofar as they are dedicated to its collection and intermediate storage, ignoring the risks to the health of the people involved in these tasks.

All of the above is endorsed by the United Nations Organization (UN, 2015), reached an international agreement to eradicate poverty, protect the planet and ensure prosperity for all people, which materialized in an Agenda 2030 for Sustainable Development, and 17 Sustainable Development Goals (SDGs) were established to meet the established goals.

The third SDG is specifically framed with health, well-being, and SDG 6 refers to public health policy on solid waste management in health care centers, whose priority is to obtain safe water and sanitation, where solid waste management is integrated.

Therefore, it highlights the educational interest in public policies oriented to the process of hospital solid waste management, as it favors and improves the quality standards of the population, related to the sanitary, environmental and economic management of these wastes, and prevents possible diseases. It benefits the promotion of health and environmental care, with educational training occupying a prominent place in public policies at the community, institutional, individual and group levels.

Therefore, the objective of this study is to delve deeper into the management of hospital solid waste, from an educational perspective of public policies, in order to reduce the health risks of the hospital community in Peru.

Development

The university, as an institution that energizes society, should promote change towards a social and humanistic conception in order to have an impact on the quality of life of the population. One of the main contributions to the concept of improving the level of health is the unified vision of fields and determinants of health (Lalonde, 2002).

Thus, in the reorientation of health services aimed at solid waste management, part of the shared responsibility of individuals, community groups, health professionals, institutions and health services and governments linked to the training of professionals at the university. All must work together to achieve a health protection system.

Hence, in the health-disease process there is an economic-social substrate that influences lifestyle, environment, human biological characteristics and health services in relation to solid waste management. Several authors (Pupiales, 2023) have addressed this issue, emphasizing the lack of knowledge by the responsible personnel of the norms and adequate management of hospital solid waste. The objective of this research was to propose an integrated management plan for solid hazardous waste from hospitals in the San Miguel de Ibarra canton, generating management strategies, including training to achieve safe management of waste from the various health care areas.

For his part (Vega, 2022), provides a qualitative, descriptive, correlational methodology, determined that hospital waste generates a risk to the health of people and the environment, indicating that good waste management reduces environmental risk and (Rivas, 2020), provides a descriptive classification with the general objective of evaluating the social and environmental impacts of integrated waste management in a medical center, for the research included people involved in its management. It was inferred that, despite the existence of an integral management plan, there is still a lack of adequate structures; evidence of inadequate waste classification in individual clinical areas, there should be a training process in environmental awareness to reduce negative impacts and promote environmental culture.

In his research (Casallas, 2020), in quantitative and cross-sectional research provides an integrated strategy of hospital waste management for a national social enterprise, the study conducted interviews to examine the procedures in place for hospital waste. Field records and electronic devices such as cell phones, cameras, etc. were used to capture information that was then analyzed.

Concluding that, based on the visits to the health center and the data obtained, there is partial compliance with the requirements and specifications of the manual of procedures and common programs for hospital and similar waste that provide the health center with the appropriate tools to be able to continue providing hospital services and to be able to continue operating.

In the study (Ramos, 2019), used a form and a checklist in 42 nursing professionals; obtaining regular results in terms of cognition about hospital waste (74 %) and in the handling of hospital waste is also performed regularly (74 %). These results do not reflect the training carried out as part of the facility's protocol for health sector workers, since there is a lack of knowledge and deficient management.

For his part, (Peñaloza, 2019), emphasizes the relationship between the level of knowledge of hospital solid waste management and compliance with MINSA/DIGESA technical standards by the clinical laboratory staff of the Military Hospital. A questionnaire was used to measure the level of knowledge about the management of solid hospital waste presented by 52 workers of the clinical laboratory service, and observation guides were also used in order to comply with the regulations in force. It showed that there is a relationship between what they know about the waste management activities they generate and their compliance with the regulations.

In Huancabamba (Romero, 2021), evaluated the perception of solid waste management for an improvement plan in the health facility; applied type, descriptive design, correlational with quantitative approach, using the survey to workers responsible for solid waste collection; determining that in the health center the management of hospital waste is deficient; concluding that it is necessary to propose a management plan for the improvement of solid waste management.

Also (Vásquez, 2023), carried out the diagnosis, characterization and quantification of hospital solid waste, the study was descriptive, cross-sectional observational design, identifying that in the year 14.84 tons of common waste, 6.02 tons of biocontaminated waste and 1.16 tons of special waste are generated, managing to identify that a good classification is not carried out, therefore, neither does it have adequate containers according to the typification of the waste generated.

The methodology used in this research allowed a systematic review of the literature to be carried out. In which a process was carried out, guided by the recommendations of the PRISMA 2020 method, the search strategies of the research, was carried out through important scientific journals such as: SciELO, Scopus. Google Scholar, PubMet, Elsevier, ResearchGate, Unika, WHO, INEC and MSP. Five equations combining key terms were used for the search:

Inclusion criteria considered: scientific journals of five years of being published and that are scientifically validated languages: Spanish, Portuguese and English and the quality of the articles. As exclusion criteria, journals that have not been scientifically approved (undergraduate, graduate and PhD); the year of publication that is not within the established range and those articles that are not compatible with the research topic were not considered.

Procedure, in the initial stage, the topic and the formulation of the research question were identified in the acronym PICO (Population Intervention Comparison Outcome) format; with the purpose of improving the precision and relevance of the search, it was considered to combine the key terms with Boolean operators (AND, OR). The search equations (Figure 1) used in the database were:

Equation 1:

“Hospital waste management” and ‘Public health policies’.

“Hospital waste management” and ‘Public health policies’.

Equation 2:

“Solid healthcare waste” and”Regulation of medical waste”

“Solid healthcare waste” and”Regulation of medical waste”

Equation 3:

“Hospital solid waste management” and”Health care”

“Hospital solid waste management” AND”Health”

Equation 4:

“Public policies” and”Solid waste management”

“Public policies” AND ‘Solid waste management’.

Equation 5:

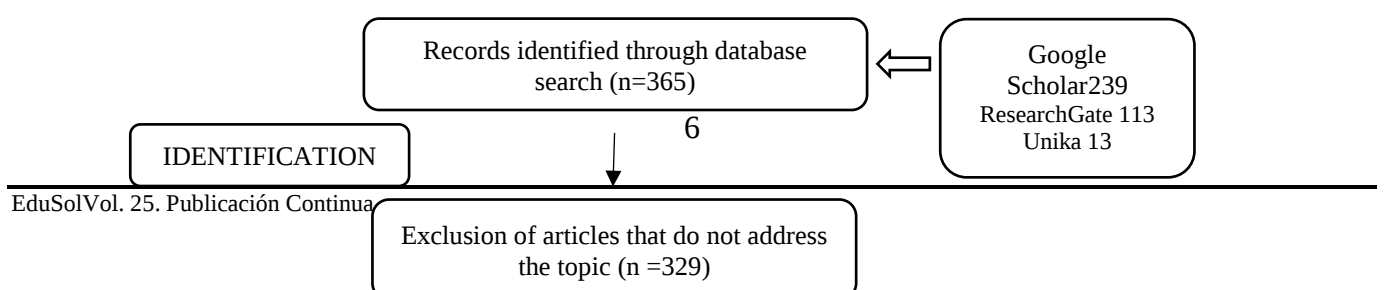
“Hospital waste management” AND ‘Regulation’.

“Hospital waste management and regulation

Results:

Figure 1.

Flow Diagram



Source: Prepared by the authors

This literature search and review allowed the determination of methodological steps for the conception of public policies oriented to solid waste management in health centers:

1. Defining objectives to be achieved with public policies, they should be measurable, achievable, and relevant and delimited in time.
2. Analyzing the context and resources, analyzing the environment of the public health institution in which the educational actions for solid waste management resulting from hospital and clinical procedures will be implemented. We also consider factors such as the target population, available resources, existing barriers and potential collaborators. Identifying the economic, human and technological resources necessary to materialize the planned actions.
3. Specifying the actions, these are defined according to the established objectives and the analyzed context, thus identifying the actions to be deployed. This includes awareness

programs, education campaigns, collaborations with health organizations, organizational, technical, and operational and human resources factors.

4. With an established chronogram, compliance dates are assigned and tasks are established for each action, showing the development of a detailed plan or chronogram highlighting when and how the conceived actions will be carried out.
5. Assigning responsibilities by establishing an interdisciplinary work team or seeking collaborations with other organizations or having specialists with expertise in the field, defining who will manage the actions and specific roles. Also by communicating responsibilities effectively to everyone.
6. Evaluating the established tasks with indicators that include the progress and scope of activities, community participation, and effectiveness in creating awareness through the establishment of follow-up and development indicators.
7. Communicating and disseminating the implementation of the actions by using different communication channels, such as social networks, websites, newsletters and local media, as a means of disseminating information on the effects of the implemented actions. This will generate awareness in the community about solid waste management in the assistance institutions; hence, effective communication is key to the success of any action. Improvements, changes and internal and external challenges would be communicated regularly.

System of educational actions to be taken into account as public policies for proper solid waste management in clinical and hospital institutions in Peru.

1. Connecting the university with institutional health communities, which will address specific needs through community service projects, counseling or training on hospital solid waste management, which will allow developing and promoting university extension programs.
2. Establishing strategic alliances with governmental organizations that address problems in the social, economic and environmental management of solid hospital waste, thus facilitating the transmission of knowledge and resources.
3. Encouraging the co-production of knowledge and solutions that will benefit the health of people and the environment, promoting the development of research projects and community participation where the hospital institutions are located.

4. Managing tutorials and training competent professionals in relevant issues of solid waste management of health institutions, in such a way that allows to actively incorporate university students in activities of community benefit and cleaning of public areas.
5. Conducting conferences, workshops open to the community, educational campaigns, thus promoting dialogue and exchange of ideas on this management for the promotion of health and welfare of society. In addition, organizing events, educational programs that achieve awareness and behavior in favor of a safe management of these types of waste.
6. Establishment of information centers that benefit the management and handling of hospital solid waste, with libraries, legal support, psychological orientation with informative resources that provide access to information, and services containing research and a practice that serves as a guide for action.
7. Informing and disseminating the norms and proper management of solid waste through interdisciplinary courses that include university students from different medical disciplines and other related sciences, thus encouraging collaboration and the practical application of knowledge for the control and reduction of these wastes.
8. Establishing open channels of communication, such as assemblies, hotlines, social networks, to give attention and answers to the concerns and needs of the internal public that are managing the management of hospital solid waste in the health institutions.
9. Establishing improvement plans for the integral management of solid waste at the community, business, individual, group and institutional levels that allow their diagnosis, characterization and quantification.

Conclusions

The educational approach to public policies aimed at hospital solid waste management highlights the necessary link between the social processes of health and other sectors of society, such as the university, business and institutional sectors, and at the individual and group level. In addition, it contributes to strengthen the public health infrastructure, to prevent the occurrence of diseases and to conserve the environment, becoming agents of positive change for Peruvian communities, clinics and hospitals, validating the necessary University - Community interaction.

An adequate management of solid waste is achieved by transforming the thinking and behavior of health professionals and their users, promoting the development of an environmental and cultural

awareness, characterized by creativity, innovation, problem solving, which account not only for the control of these wastes, but their reduction to reduce the risks that may affect the health of the community of these health care centers.

Developing an awareness that contributes to the co-production of scientific knowledge and solutions that benefit the health of people and the environment from an educational approach to public policies in the social, economic and environmental management of solid waste favors decision making and a management plan for the improvement of the services provided by these health care centers.

It also highlights the realization of educational programs, conferences and open workshops where experts share knowledge and training, thus promoting dialogue and scientific exchange, fostering collaboration and the appropriate practical application of standards and improvement plans for the integrated management of hospital solid waste.

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