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Nurses involved in management of hospital residues: a descriptive study

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ABSTRACT

Objective: To discover the nurses' perceptions of their roles with regard to the process of Health Services' Residues Management. **Method:** Qualitative, exploratory and descriptive research conducted with nurses from a university hospital's open hospitalization units of. The data was collected through semi-structured interviews held between November 2010 and March 2011. Afterwards, based on the framework of thematic content analysis, the findings were analyzed. **Results:** The categories related to knowledge about the process of residues management; the difficulties of obtaining the multi-professional team's cooperation; the nurses' perceptions since they were responsible for the management process of solid waste; the nurses' actions as in-service educators; and the emergence of the management process being a difficult task. **Conclusion:** Since it is a new demand for the profession, there is a continuing need to improve discussion with nurses about the waste management responsibilities attributed to them.

Keywords: Nursing; Environment; Health Services' Residues

INTRODUCTION

Nowadays, the complexity of environmental issues is one of the serious which we face. These issues require human beings to display a behaviour focused on the need to act responsibly in relation to the environment in view of the accelerated process of environmental destruction, which we experience, and the threats to the planet's survival. A number of factors have been considered to be harmful to the environment – most of them are attributed to the action of humans. These are the so called anthropogenic actions which forced different sectors of the population to establish control measures and to minimize the impact, especially from the different productive processes present in today's society.

Amongst the sources of environmental degradation, the health care generated waste represents an important peculiarity because, when managed improperly, it signifies a potential hazard to the environment⁽¹⁾. There is a concern about the increased production of residues in Brazilian hospitals' health services. The Brazilian data indicates that 228,413 tons of trash, is collected daily. In general, it is estimated that, daily, about 2,300 tons - 1% - of this total represents the health services' waste. In 74% of Brazilian municipalities, the health services' garbage is deposited in the open. This means that 57% is separated in hospitals and, as provided by the current legislation⁽²⁾, this waste is treated in only 14% of Brazilian cities.

In this sense, the management of Health Services Residues (HSR) is a controversial topic which, in view of the impact it may have on human health and the environment, continues to require a wider discussion. In order to manage the health services' waste, there is a set of management procedures which are planned and implemented in scientific and technical terms on a regulatory and legal basis. These aim to minimize the production and to provide a safe and efficient routing for the generated waste. Based on the characteristics, in terms of the classification of the groups and the volume of

generated waste, the hospitals have an obligation to develop a Health Services Residues
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Management Plan (HSRMP) which establishes guidelines for handling these residues and explains the segregation; the packaging; the identification; the internal transport; the intermediate storage; the temporary storage; the treatment; the external storage; the collection and external transportation; and the final destination⁽³⁾.

Consequently, managing the health services' solid residues is a serious problem for nurses who are, generally, administrators of different departments in the hospital, since the current solutions focus predominantly on the implementation of handling such waste. This is done without taking into consideration the whole process and without the preparation of the professionals who, often, do not have the proper tools in the health care process to manage the segregation of the residues.

On this basis, it is understood that a new demand has been entrusted to nurses who are held accountable for the management process of health services' solid waste. This demand requires great leadership skills which are an essential quality in the nurses' management process. Nursing needs to think again and redefine its functions in order to ensure its role and its commitment to society. Currently, this aspires to greater quality in providing people with assistance concerning their health⁽⁴⁾.

Therefore, it is essential to discuss the management of health services' solid residues. Consequently, this study aims to contribute to the process by asking nurses, based in a University Hospital's open hospitalization units, for their perceptions of their role in the Health Services' Management of Solid Waste. We believe that the establishment of their reflections on this theme will enable a wider debate about this new demand on nurses.

METHODOLOGY

This is a qualitative study since it is more appropriate for investigations which address issues related to subjective phenomena. The investigation, held in a university hospital in the State of Rio Grande do Sul, is classified as descriptive and exploratory.

Fifteen nurse (three nurses in each of the institution's internment units, including two from the day shift and one from the night shift) from the open hospitalization units were interviewed. The data was collected through semi-structured interviews which were conducted and recorded in November and December 2010 and March 2011 in a reserved place. The aim was to maintain certain proportionality amongst interviewees. The inclusion criteria were: being an employee of the institution; having worked for more than one year in the sector; and agreeing to participate in the study. The termination of data collection followed the criterion of data saturation.

Afterwards, the researchers, themselves, transcribed the interviews. They identified the study participants with the letter "E", followed by a number corresponding to the order of each interview. The data was analyzed according to the reference frame, proposed for thematic content analysis (Bardin)⁽⁵⁾, and according to the following stages. These were: meeting the analysis corpus; fluctuating reading of the findings; in-depth reading in order to constitute categories of analysis; interpretative analysis of the categories; and discussion with the relevant literature.

The Research Project's Protocol (Protocol No. 0.295.0.243.000-10) followed the principles of the National Health Council's Resolution 196/96 of, which was approved by the Ethics Committee in Human Research.

RESULTS

The data was collected from 15 nurses working in a university hospital's open hospitalization units. The participants were mostly female (93.3%), with an average age of 34 years. The nurses had spent approximately five years in the units and approximately eight and a half years in the institution. The year, in which the nurses graduated, ranged from 1983 to 2006.

The interviewees reported that they were knowledgeable about the current environmental issues such as global warming and the greenhouse gas effect among
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others, which we experience, and they were empathetic when expressing that they considered themselves to be affected by their effects on the environment. Also, they believed that humans were the major contributors of the current environmental problems and that there was a need, to search for effective solutions to this environmental crisis. Although many of the subjects claimed to develop actions for environmental preservation in their households, nonetheless, these did not seem to be very concrete actions.

By deepening the process of reflection on the subject, particularly with regard to the health services' management of residues, the subjects expressed their opinions. These were organized into the following categories: knowledge about the process of waste management; superficiality and routine; difficulties of obtaining the multidisciplinary team's co-operation, nurses' perceptions of being whilst responsible for the process of the management of solid wastes; the nurse's role as an educator whilst on duty; and the difficult task of the management process.

In general, this data shows the comparison between the professionals and the recent activity in nursing practice was guided by the lack of systematic knowledge on the subject and by institutional issues which interfered in the nurse being able to participate effectively on this issue.

Knowledge about the Process of Residues Management: Superficiality and Routine

When asked about their knowledge regarding the disposal of waste resulting from the health care process of, one realizes that the nurses, working in the investigated units, knew little about the subject. For example:

I understand the process a little bit. I know that the recyclable waste, I know that there is a team that collects the garbage and that this garbage goes to separation. And then there's a staff that separates recyclable waste, which the hospital sells and gets the money from the sale of the material. The contaminated waste which is a large volume at the hospital, which they are trying to reduce, is a residue that generates much cost to the hospital [...]
(E2)

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Therefore, nurses showed that they did not have a thorough knowledge of the subject; in this case, the nurse expressed, also, erroneous opinions on the disposal of waste since the recyclables were not sold but donated to a community association.

However, despite little knowledge of the subject, nurses perceived, over the years, an improvement related to the team's performance regarding the segregation of HSR. For example:

The nursing staff has improved a lot because it is taking greater responsibility on the issues of separation and segregation of garbage. Lately, we notice that the staff cares a little more [...] (E5)

Therefore, the nursing staff had a perception of the evolution of the HSR segregation process in their daily practices. However, for some individuals, you must make a greater investment in continuing education because there remains a need to develop a process of awareness within the team on the correct segregation of waste. For example:

As I told you, I think there's still a resistance because it is sometimes regarded as something superfluous. It's not considered as something that is part of the work. You have to have that control, but I still say that it lacks the awareness of how important this is. So it's like I told you, it's not given due importance. (E1)

Consequently, from the perception that the actions of segregation are developed and guided by specific norms, it is evident that, as yet, the issue is not regarded as a topic of discussions between workers,. Consequently, they do not observe the existence of awareness on the subject.

Difficulties in gaining the Multidisciplinary Team's Co-operation

Another point, raised in the collected data, was the multi-professional team's work in relation to the HSR issue which, in this study, resulted in a highly important category. For example:

Then it's more problematic (laughs) ... because ... it seems that only the nurses know the routine, what they have to do. It seems that the doctors, especially the ones that don't have this information. It seems like they, they never do it, they sometimes take a glass and say: where do I put this? ... good thing they ask this question, isn't it? When they ask it's wonderful, they come here and ask: where do I put this? But there are some that don't ask ... Then the staff does some procedure and, instead of putting the material in the infectious garbage, they put it in the recycling bin. So it seems that only nurses have to do the right thing. (E1)

In this case, the nurses said that, in relation to the issue, they felt a certain detachment from other professionals. They stated that the non-commitment to the management process, especially by the medical team, was a factor which generated stress amongst the nursing staff.

Nurses' Perceptions on being Responsible for the Management Process of the HSR

In this case, the opinions addressed contrasting situations. In one of them, the individuals assigned the responsibility for the management of HSR to the Department of Hygiene and Cleanliness of the institution which, for several years, worked to provide the technical and administrative support in respect of the theme. For example:

[...] Since there is, at the hospital, this waste management team, we end up not getting too much involved with it [...] (E2)

This fact, combined with the little knowledge on the above mentioned subject, reflected a perception of no effective accountability for the process. This was attributed to the sector responsible for the institution's hygiene.

On the other hand, some nurses perceived themselves to be a link between the above mentioned service and the team operating in the sector. For example:

*So, at first we stay out because there is a staff that does it, and we end up not getting involved. What I try to do is, in this sense, to try to help, saying that this is not working, and that is working. The idea is to make this bridge between the department that does the service, **that has all this responsibility** and we along with the team as it certainly is a place that we can improve, but I think that doing this bridge well between the team and the department... (E8) (Emphasis of the authors)*

In this sense, we might highlight, also, the perception of an action directed to make the interaction between the sector, held responsible for the managing process, and the staff. Ultimately, as highlighted in the testimony, the responsibility continued to be assigned to the department in charge of sanitation.

The Nurse's Role as an On Duty Educator

Although they did not feel responsible for the waste management process, the nurses understood that it was necessary to cooperate with this process through the development of in-service education. For example:

Well, our waste management basically happens focusing on guiding, to try to properly segregate this garbage, and then I stalk about garbage, I am always thinking about garbage, contaminated waste and non-contaminated garbage, which is basically what we deal with in the hospital. Of course it's not just about trash, it's also about trying to make people understand the importance of it, so that other do not get harmed in their work. For example, if you put a syringe with no cap in a white bag, I know that someone may get hurt when picking it up. So you have to think about people's health, I think it's more like it. [...] (E5)

The events, relating to the analysis of this category, showed that, despite not feeling responsible for the management of residues, the nurses were required clearly to be committed to the issue and to collaborate in some way with this process. However, we must highlight the fact that they did not have a proper knowledge of the subject and, as

already disclosed above, this led to questions about how this educational process was

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conducted. For example, the above demonstration shows a particular concern about contaminated and uncontaminated trash, and this approach not including recyclable waste which is, also, of paramount importance to the management process. Moreover, there is a concern about issues, related to workplace accidents, which are very relevant and should be addressed.

Management Process as a Difficult Task

Despite understanding the importance of developing educational activities related to the topic, which would be their main contribution, the nurses expressed many difficulties. These related mainly to raising their sector's health care team's awareness of the correct segregation of health residues. This arose from the lack of awareness of environmental issues and the resultant consequences of an incorrect segregation to the health workers and the environment. For example:

I think that there is some kind of difficulty because of the awareness of people, it's very hard. I don't know, some people seem to be indifferent to the problem of environmental issues, you know? That's what I think, that's what they show me, that they don't care much about the trash. (E7)

Consequently, the interviewees' manifestations lead to reflections on how workers should be informed about the theme. The aim would be to motivate people to think about the several aspects related to the environmental issue and, in this case, the management of HSR. In general, the demonstrations pointed to the concern about the complexity of the issue and the importance of having integrity and commitment to environmental demands arising and resulting from the process of health services' management of residues of. However, there were observed, also, demonstrations, restricted to the rules and routines to be followed, which gave the theme a simplistic nature were. For example:

I don't have major difficulties. I think it is easy. It's a program that is ready. We just have to do our part here as it's got to be done. From here to outside of the hospital it's not our business. [...] (E6)

In short, despite not feeling responsible for residue management, the nurses were aware of the general importance of developing educational activities related to the theme.

DISCUSSIONS

The individuals' statements showed that, even on the disposal of waste resulting from the institution's health care process, there was little knowledge about the management process. The nurses had limited knowledge about the health services' solid waste management. The way to solve this issue would be the exercise of common sense, combined with education and training of the health professionals; and increasing awareness amongst the population.

The standardization across the institution of the segregation of solid waste is crucial in understanding the respondents' attitude to this issue. In this regard, it is noteworthy that the institution had developed already some actions directed to solid waste management. In 2005, these became more systematized with the elaboration and implementation of the Solid Waste Management Plan⁽⁶⁾.

Therefore, although professionals are more adept at correct segregation, it remains implicit to develop strategies to raise awareness of the subjects so that the waste management practices are incorporated as something which is important for the institution; for the workers; and to the environment. It is essential to raise the awareness of each actor, involved in the various stages of this process, so that this important activity is considered not only as a standard but, also, as a routine to be fulfilled. Obviously, this process needs to be gradual and should not be done in a single stage. The worker needs to know the benefits which his action to preserve the environment will bring, not only for the environment but, also, for himself.

The analysis of the hospital worker's achievement or otherwise of environmental preservation actions cannot be biased simplistically since several factors influence this practice. In the hospital context, where several processes of subjectivity impact on the job, this statement is even more real. In this analysis, the issue of nursing work is of particular importance to the extent that this fragmented work process, together with the lack of knowledge of environmental issues, results in difficulties in developing actions to preserve the environment⁽⁶⁾.

The individuals expressed that the multidisciplinary team, especially the medical staff, did not cooperate with the process of waste segregation. This interfered with the whole management and resulted in greater stress on the nurse. In general, the medical professionals do not engage in the generation of waste which, predominately, may continue to be associated with the model adopted in training and professional practice. Namely, there is an emphasis on treatment and recovery from disease rather than on its prevention and health promotion. Likewise, the medical professionals assign responsibility for the management of the HSR to nurses since they assume a role of being stewards of the sectors which provide assistance. This results in a situation whereby the other professionals consider themselves relieved of the role of developing waste segregation or having to be concerned with this important issue. However, the involvement and responsibility towards the HSR, from its generation to its final disposal, is all part of the subjects exercise of citizenship⁽⁷⁾.

In the context of environmental health, the actions of health promotion require the interconnected performance of various professions, using separate instruments for one purpose. This is, namely, to promote health and, hence, the importance of discussing the topic, which includes well-being and ecological aspects, with the purpose of developing consistent and reasonable measures⁽⁸⁾. Whilst it promotes ecological conservation, this implies the search for a living process which enhances the interaction between humans and the environment through practices which consider the environment as an essential dimension in the quest for a better quality of life.

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Since this is a responsible sector, the nurses feel relieved about performing the management of the HSR. However, despite there being in the institution from the generating units to the external warehouse, a body responsible for the process of residue management, there is no reduction in professionals, working in their sectors, being responsible for the management of the HSR. It is necessary that each professional raises his awareness about the environmental issues in order to base their actions on knowledge and conscience. If, in relation to the waste management process, their performance does not have this orientation, it will result in disengagement with the process or, at best, be followed by a regulation established by the institution.

The data show that, for nurses, the management process involves an educational activity through guidance and informal conversations with the staff. Although there is greater concern about contaminated waste, which depicts a typical mindset of hospital work and is very noticeable amongst the workers⁽⁶⁾, we may perceive, also, an interface between waste management and the risk of accidents. Obviously, it is essential that, in their daily practices, nurses develop an educational attitude and motivate and involve the other professionals in seeking, thereby, to develop the necessary social and environmental responsibility to participate an effectively in waste management.

Therefore, it is very important that nurses participate in health services' waste management, as well as having knowledge on how such services are managed. However, some professionals do not have the knowledge and confidence to work in this area⁽⁹⁾.

In this regard, the interviewees expressed great difficulty in making the rest of the team, operating in its sector, aware of the correct segregation of healthcare residues. This was attributed to the lack of awareness about environmental issues and the resultant consequences of an incorrect segregation on health workers and on the environment.

Specifically when talking about the process of formation, it was noted that the difficulties in undertaking the management of waste related to the failure to include this approach in

the training of future professionals. This issue must be discussed with all professionals so
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that there are made aware of the issue. However, in the area of health, the typical fragmentation of current teaching models underlines a wider view about the global problems which are hindering the formation of ethical awareness and the practice of social responsibility⁽¹⁾. The emergence of a more conscious action, which communicates with reality; with adversity; with nature; and with each other; will be achieved only from a complete thought which minimizes mutilating and reductionist views⁽¹⁾.

The educational activities, which aim to empower people to be committed to the environment, should be developed effectively. In doing so, this will lead people to think about the excessive production of waste and become active agents in promoting a healthy environment without environmental damage⁽⁸⁾.

In order to develop educational strategies on environmental health, it is necessary, at first, to discuss the whole process of environmental imbalance. This seeks to understand the reality in intervening effectively and reviewing health practices so that, later, concrete strategies on health education are implemented to enable the protection and integral promotion of health to communities. In addition, it empowers the individual and society to undertake healthy actions for the environment and leads them to an ecological awareness⁽⁸⁾.

It is urgent that human beings assume their responsibilities towards nature, and redeeming values such as solidarity; cooperation; partnership; and reverence of things of the earth. It is time to change; to think of an epistemological rupture, and, paradigmatically, care, from a network of interdependencies⁽¹⁰⁾, to consider care from this ecological, broad, systemic and complex viewpoint.

For some nurses, solid waste management is a simple task which refers only to following the rules established by the responsible department. Although, previously they expressed concerns about environmental problems and developing some actions on behalf of environmental conservation in the domestic sphere, these nurses seem not to transfer this knowledge to their daily work. In part, we can infer that they are waiting for

knowledge; and waiting for regulations which can show them what can or cannot be done
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within the institution. This attitude is tied closely to a historical process of hospital management, inspired by the Fordist factory and capitalism. It focuses on bureaucracy and vertical and hierarchical processes of command. It leaves the workers at the mercy of institutional rules and the demands of the higher levels of command. Consequently, given the gap interposed between those who command and those who execute tasks⁽⁶⁾, they see their autonomy to think and act being hampered,

In this sense, the implementation of policies and strategies, aimed at minimizing the health institutions' environmental impact requires a process of systematic and comprehensive permanent education, based on the reflective process which, in order to pursue the development of conscious practices of environmental preservation, problematizes the involved social actors' conceptions, beliefs and values social actors .

CONCLUSIONS

This research on the nurses' performance in the management of health services' solid waste is aimed at highlighting some aspects which influence their management process. Consequently, the interviewees demonstrated limited knowledge regarding the management of health services' solid waste which involved the development of a process of the health professionals' education and training and increasing awareness amongst the population. Although professionals are more adept at the correct segregation, it is still necessary to develop strategies to raise the individuals' awareness so that the waste management practices are incorporated as something important for the institution; for the workers; and for the environment.

The analysis evidenced, also, that the multidisciplinary team, especially the medical staff, did not cooperate with the process of waste segregation, which interfered with management as a whole and resulted in greater stress on nurses. Consequently, the management process should include an educational activity through guidance and

informal conversations with the staff. However, the interviewees expressed great
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difficulty in sensitizing the rest of making their sector's operating team aware of the correct segregation of healthcare residues. This was attributed to the lack of awareness about environmental issues and the consequences which an incorrect segregation might have on health workers and on the environment.

However others see the management of residues as a simple task which refers only to following the rules established by the responsible department. Even having expressed earlier their concerns about environmental problems and, in the domestic context, the need to develop some actions for ecological conservation, respondents seemed not to transfer this knowledge to their daily work.

Given the above, it appears necessary to improve discussion of the allocation to nurses of the responsibility for residue management since it represents a new demand on the profession and is as important as the other demands.

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