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The perception of students of the area of health about the environmental problems: a descriptive study

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Aim: The study aims to understand what students in the area of health know about the environmental problems. **Method:** Descriptive research, of a qualitative nature, was performed with regard to academicians of the area of health in a graduate level institution. The data was collected through semi-structured interviews and analyzed through the use of content analysis. **Results:** The data showed a polarized concept about the environment which can be simplified as an interactive view or a naturalized one. The actual environmental problems impact on the subjects, and they identify humanity as the origin of this situation. They call attention to some of the actions that are fundamental to the creation of sustainable behavior, yet there is a question about government inefficiency with regard to the topic. **Conclusion:** The development of the discussion about the topic is fundamental to stimulate the reflexive process about social-environmental responsibility by academicians in the area of health.

Keywords: Environment; environmental health; nursing; graduate education.

INTRODUCTION

The debate about environmental topics, in many scenarios, is a practice which is being increasingly emphasized. The alarming data, related to the imminent possibilities of environmental catastrophe, have caused a widening of the discussion about the theme.

At the same time, in terms of knowledge production, a search for the development of studies that assist not only our understanding of the problem, but also of alternatives to resolve it, has been observed. However, in spite of all the efforts that have been made by some researchers, it has been found that some parts of society and some areas of knowledge are still not fully aware of the topic. One of these sectors is the area of health, which historically has been privileged by adopting an approach to the health of individuals which makes use of a more contextualized perception of the social environment that they live in. The environmental matter assumes a fundamental relevance nowadays, especially for health professionals, as healthy living depends intrinsically on the human and environmental quality of life⁽¹⁾. However, it is clear that any discussion about the importance of this debate in the formation and practice of the health professional is practically non-existent⁽²⁾.

Despite this fact, this matter cannot be focused on in a simple fashion. *Au contraire*, this topic is very complex in that it affects many dimensions of human life. Contemporary sociology authors defend the idea that environmental factors have strong implications for contemporary lifestyle. This point of view can also be referred to as Reflexive Modernity.

Modernity refers to a style, to a habit of life, or to a social organization, that emerged in Europe after the 17th Century, mainly related to a new perspective of economic and technological development³. Today, we are on the boundaries of a new era, characterized by a variety of terms, such as Post-Modernity, Post-Modernism and Post-Industrial Society, and there is a controversy mostly related to questions of philosophy and epistemology. Therefore, in Modernity, there is a development of social institutions with

intense worldwide propagation, which, if compared to any type of pre-modern system, is likely to generate an increasing number of opportunities for human beings to enjoy of a safe and gratifying existence. On the other hand, this epoch also has a dark side, as was seen during the 20th Century⁽³⁾.

Modern society, because of its dynamics, presents transformations in its class formation, social layers, occupations, family and institutions in general, escalating to a new stage such that technical-economic progress could lead to self-destruction. This is called Reflexive Modernization (or high Modernity or tardy Modernization), that implies a silent radicalization of the Modernity that invades industrial society, opening new ventures to another stage: the Society of Risk. The Society of Risk is a result of the assurances of industrial society, anchored in a consensus of what people and institutions think about the progress and the abstraction of its effects, which threatens to destroy the basis of industrial society itself⁽⁴⁾. Thus, two constituting phases of this process are outlined: the first, relative to a stage in which the effects and the self-threats are systematically produced, but not as a matter of political interest or conflict; and the second, in which the situation changes itself as the dangers of industrial society start to dominate the discussions and the conflicts, both public and private, and the institutions can no longer control the threats generated and legitimated by themselves⁽⁴⁾.

In relation to this, we can highlight the unpredictability of the threats provoked by industrial society, which demands a process of self-reflection about the assumptions that generated the rationale it supports. "In the self-concept of the society of risk, the society becomes reflexive (in a strict way of the word), which means to say that it becomes a theme and a problem to itself"^(4:19). Then again, the reflexive word does not mean reflection. Rather, in this case, self-confrontation works together with the effects of the Society of Risk. The fact that it can become an object of reflection in the future (public, political and scientific) cannot hide the non-reflected and almost autonomous mechanism of transition, for it is exactly the abstraction that produces and consents to the reality of the Society of Risk.

As to this way, sociology presents fundamental contributions to the understanding of how actual society experiences the effects which arise from technical-scientific progress, and among them, high consequence risks, such as environmental ones. For this reason, in terms of the search for information on how people perceive this process, especially with regard to environmental problems, it is fundamental to search for elements to support a consistent action with necessary social-environmental responsibility.

It is clear that negative environmental changes affect the process of health-illness. As a result, it is imperative that health professionals constitute themselves as being active in educating and informing the community about the consequences of environmental risk and the potential effects on their health and their quality of life⁽¹⁾.

Based on this, this study aims to answer the following question: what do the academicians in the area of health think about the actual environmental problem? Consequently, the data presented in this paper aim to ascertain the perception of these academicians with regard to the actual environmental problem.

METHODOLOGY

This is a study that uses a qualitative approach, which is considered to be the most adequate approach to investigations that deal with questions related to subjective phenomena. The investigation is classified as descriptive and was conducted with twenty-four students of the area of health who are enrolled in a public university in the south of Brazil.

The data was collected during the months of August and September 2010, with an attempt to obtain such data from a range of students. Specifically, interviews were performed with four students from the Nursing school, five from Medicine, five from Physiotherapy, four from Phonoaudiology, three from Pharmacy and three from Dentistry. The inclusion criteria were: to be an academician in one of the schools in the

area of health, be a senior member of staff and be willing to participate in this study. The end of the data collection phase was determined by the criterion of data saturation. Data was obtained through a series of semi-structured interviews, using guiding questions related to the investigation. The interviews were performed by previously trained investigators, in a reserved place. They were recorded and later transcribed by the interviewers. The subjects were identified according to their graduation course and the corresponding number of the interview.

The information was subsequently analyzed using content analysis⁽⁵⁾, based on the following steps: reunion of the *corpus* of the analysis; a brief reading of the findings; a detailed reading in order to generate categories of analysis; interpretative analysis of the categories; and discussion in terms of the pertinent literature.

The study followed the principles of Resolution #196/96 of the Brazilian National Health Committee and was approved by the Committee of Ethics in Research from the Santa Maria Federal University, under protocol number 0014.0.243.000-10.

RESULTS

At the beginning of the process of analysis, it was observed that the academicians presented a **concept of environment as a space of existence: insertion and interaction**. For the majority of the subjects, it is clear that the idea of the environment has a wide connotation which involves not only the natural and biological aspects, but also other questions and approaches that are inter-connected. At the same time, it is notorious that there is a manifestation of insertion in this space, denoting a clear notion of belonging.

Environment normally reminds us to think about Nature, the greens, you know? But I believe the environment is the place we live in, like, it's all that belongs, it's our home, it's ours, [...] our College, it's all that, the city... Then it's all that we live in and coexist with. (Nursing 03)

This question must be highlighted, once it reveals a process such that the interviewees present a concept of higher interaction between the social and natural dimensions. This concept can suggest a certain appreciation of the multiple aspects involved in the process of human life, and consequently, may demonstrate a preoccupation with the environment as the basis for maintaining wellbeing and the quality of life.

However, it calls our attention to the fact that some expressions denote a view which is biased in terms of a naturalist inclination, understanding Nature as a biological element. At the same time, some subjects refer to the topic by pointing to the environment as a usable property of human beings. Therefore, it also indicates a meaning that does not merge with the category: **a naturalized view of the environment.**

The environment, for me, to think about it, it is like Nature, the animals, all the ecosystems, plants and trees. (Phonoaudiology 02)

In this case, it is relevant to detach a view of the world that gives privileges to the view of the environment as a biological order which can bring, as a consequence, an idea of distance between humans and the environmental problem, bearing in mind that only Nature could be affected by eventual damage. In the same way, thinking of the environment exclusively as a private propriety reveals a concept guided by a vertical philosophy base, in which the human being is considered the beholder of knowledge and who has power over all other living beings. This way of thinking is opposite to that which defends by a horizontal and interdependent relationship among all living creatures of the planet.

Another question which was explored with the interviewees was the connection with actual environmental problems. Many implications were present, denoting an idea of impact in terms of the imminent environmental catastrophes caused especially by human beings. The following category exemplifies this idea: **the human being as the source of environmental problems.**

[...] People pollute, destroy the environment, Nature, without thinking of the consequences. The result of all this, all this pollution, the deforestation, drying

rivers, domestic waste , and the greed of the man for more money are destroying the whole of Nature without thinking about tomorrow. (Physiotherapy 03)

Based on this, the interviewees stated that human beings are the main source of environmental problems, a view which is supported by the literature.

Despite this, corroborating the manifestations already mentioned, regarding a naturalized view about the environment, emerging beyond the notion of man as the source of environmental problems, there is an idea of the natural world as a useable property'.

It is critical. It is really problematic. People are not taking care of our most important goods - the water, the air we breathe, the forests. I think it is really complicated. (Medicine 03)

As a result, we can obtain evidence among the academicians that there is a perception that the natural world does exist to be dominated by humanity in order to satisfy their needs.

Thus the analysis of the data permitted us to verify that the subjects have a clear perception that nowadays many environmental problems are affecting the planet and that they have a direct connection with human actions. This leads to the category that the subjects are **under the impact of environmental problems: the expression of reflexivity.**

Well... Today, especially in our country, we live thinking about progress, opening of new industries, employment, better quality of life... But there is a cost to all that, with all we do to improve we have to do it responsibly. It is not only going there and doing it, and not worrying about the rest, because it will come back to us somehow (Medicine 04).

For the subjects, the actual environmental crisis seems very serious. It calls attention to different types of catastrophic climatic events that have been widely broadcast by the

media, and also the idea that the search for technical-scientific and economic progress is involved in this process, besides the already mentioned participation of human beings.

The comments of the interviewees, initially, seem to delimit a process of higher sensitivity towards the environmental problem, motivated mainly by the confrontation of the dangers that come from environmental destruction in general. On the other hand, even when the subjects are suffering from the impact of environmental problems, especially when broadcast by the media, this does not necessarily mean a greater concern with regard to developing concrete actions in terms of environmental protection. In this sense, we note the concept of reflexivity between the subjects studied. Even if there is a confrontation between effects and damages caused by contemporary society in a vast technical-scientific development, there does not seem to be a deeper reflexive process about the topic, not a development of social practices in accordance with an idea of environmental protection.

On the other hand, we can affirm that the stimulus to the reflexive process about the theme generates a certain discomfort, which bothers the subjects and forces them to think about their responsibilities regarding the topic, as observed here:

[...] In terms of environmental problems, we say a lot about progress, that our country wants to evolve, to grow with other countries, looking to develop and progress without worrying with the environment. It seems to me that this is a government thing, of big corporations, but... The help for the environment depends on... Especially from the people, it is like the education learned at home, it is part of us, and we cannot depend exclusively on others. (Medicine 04)

When stimulated to reflect about the topic, the interviewees started to show some uneasiness, stimulated by the dilemma between their individual responsibility and the need for environmental protection, and the action expected of the general government.

The discussion about the involvement of politicians and the government, especially when referring to the resolution of environmental problems, is also observed among the interviewees, revealing a category related to **governmental action and economic power**.

The matter of the environmental problem is to me a question to be solved economically and politically, because it is known that the great world powers have destroyed all the environmental reserves. They have destroyed all their environmental reserves in their countries, in their landscapes, and then today there is a huge concern about saving the reserves that still exist in underdeveloped countries, that have not been completely explored...
(Physiotherapy 04)

According to what was exposed here, the interviewees also attributed the causality of the environmental problem to matters of economic and political order, that obviously have proceedings and are widely mentioned in many means of mass communication. Still, the government is responsible for carrying out the actions to aid environmental protection. This is not classifying this question as 'merely economic', as it can give a dubious margin of understanding.

Another question explored in this study was the relationship between the development or not of actions with regard to environmental protection by the respondents. In this case, the comments of the majority of the subjects reveal that the separation of domestic waste is the main action performed to reduce their environmental impact.

Thus, it can be seen that the academicians have taken some type of action with regard to environmental protection due to the impact that environmental problems have on their lives. In some cases, other mentioned actions were related to rationing their consumption of water and electricity, the reuse of materials, special care with the disposal of batteries, among others. Yet, the academicians reaffirmed that the actions of environmental protection, when developed, are minimal if compared with the ecological problem. This confirms the idea that the subjects do not feel strongly enough to develop

actions on a wider scale, as they do not feel motivated by governmental agencies.

Still related to this question, another expressive category is related to **the separation of waste and the inefficiency of the public government.**

I take care, we are conscious, but to separate waste... Do the possible... But here in our building, for example, we separate, but in the bin they mix it all back again... All mixed up and then they take it out... We separate, but it does not make any difference. (Dentistry 02)

Besides what has been said, some academicians refer to the image of garbage collectors as the only alternative to fulfilling their attitude to waste separation.

[...] Here at home we separate the organic waste and the dry waste, we also divide the dry waste into a section of materials which can be used by the collectors, like cans, PET bottles and other plastics that we know goes straight to the recycling and reusing section [...]. (Physiotherapy 04)

It is observed by the academicians that, besides making an effort to develop actions that minimize their environmental impact mostly related to the separation of solid waste at home, there is not an institutional correspondence – related to the public government – to provide a sequence and support for their actions. Despite the fact that they select and separate the material to be recycled, they deposit their trust in the image of the garbage collector as their only hope that their action achieves some effectiveness.

With all that, the data of this study demonstrate that the academicians are subjects who are reflexively affected by the actual environmental problem, which can have implications for the form of how they behave with regard to the preeminent need of action in terms of

environmental protection. Together with this, it is imperative to highlight that the Camponogara S, Erthal G, Viero CM, Diaz PS, Soares SGA, Peres RR. The perception of students of the area of health about the environmental problems: a descriptive study. *Online braz j nurs* [periodic online]. 2012 Aug [cited 2012 sep 03]; 11(2): 376-91. Available from: <http://www.objnursing.uff.br/index.php/nursing/article/view/3767>

concepts previously demonstrated can also have some consequence for the actions of the subjects as health professionals. Therefore, there is a need for a search for the construction of knowledge that promotes the discussion of these views, based on contemporary theoretical references in accordance with the need for social-environmental responsibility among health professionals.

DISCUSSION

The declarations show that, for the academicians, it is clear that there is a conceptual inter-relationship between the natural and the social worlds, which is quite meaningful once there is an awareness of an overlap between these two spheres in the everyday life of people. Thinking in a more integrative way about Nature and society is not an easy, simple and immediate task. We can affirm this, based on the fact that the history of science in the last 200 years has focused on the disconnection, the control and fragmentation of Nature, of society and of human beings⁽⁶⁾.

However, some interviewees have a view that the environment is directly related to Nature, in a sense of natural landscape. This "naturalized" view tends to see Nature as a good, balanced and stable biological order, but living independently of any interaction with the human cultural world. As a consequence, this vision of the world reduces the environment to only one of its dimensions, taking out from the horizon the interactive and interdependent character with the human culture, which impedes a wider glimpse of it, not only as an ecological problem, but also in terms of its solutions⁽⁷⁾.

One of the possible explanations for this process is called the segregation of experience, which is considered a definition of Modernity. It is a consequence of positivist thinking, which has tried to eliminate the moral judgments and the aesthetic criteria of modern

life. As a result, the process of moral segregation is observed in many areas, removing or hiding existential questions of everyday life. The concept of Nature comes as one of the processes of the segregation of Modernity, attached to society only through an instrumental relationship of control and use⁽⁸⁾.

It is urgent that man/human beings assume responsibility for Nature, rescuing values such as solidarity, cooperation, partnership and reverence to the elements of the Earth. It is a time for change, to think of an epistemological and paradigmatic rupture so that we can see carefully an ecological, wide, systemic and complex view, with a network of interdependencies⁽⁹⁾.

In this sense, it is vital to recognize that the environmental problem needs to be understood by a complex vision of the environment, in which Nature integrates a network of relationships that are not only natural, but also social and cultural⁽⁷⁾.

Based on this, dealing with the threats originating from damage to the ecosystem, probably will demand global answers coordinated in levels far from individual action. On the other hand, these threats will not be effectively dealt with unless there is a reaction and an adaptation by each individual. Generalized changes in the way of life, together with a reduction in the importance attributed to continuous accumulation, will be almost certainly necessary if there is a need to minimize the ecological risks seen today⁽³⁾.

It is important to wonder about the concept of reflexivity, considered as a definer of all human action. Modernity is constituted by and through reflexively applied knowledge, but this knowledge is followed, not by the presumed certainty of the old institutions, but by a sensation of uncertainty, as observed by the damaging effect of the progress that leads to the configuration of the already mentioned Society of Risk. It is important to say that, initially, reflexivity does not generate a reflection. It invites a reflexive dialogue and promotes the discussion of knowledge and practices that allow coherent transformations of the demands of society. Related to environmental problem, this discussion can permit

the emergence of new senses and meanings or, in other words, of a different, plural and complex way of thinking about the relationship among humans-society-Nature⁽³⁾.

In Modernity, the culture of reflexive ego experiments the uneasiness of its technical construction and of global society, as seen by the microcosm of personal life conduct interconnected with the macrocosm of seriously unsolved global problems, which demand a total change of perspective. Philosophical questions must become part of ordinary life, especially those which refer to ecological matters⁽⁴⁾.

High Modernity is characterized by the recognition that science and technology have two sides. This generates new parameters of risk and danger and, at the same time, offers beneficial possibilities to humanity. Many developments, which previously were believed would make life easier, safer and more predictable for us all, have had a totally opposite effect. Science and technology are inevitably involved in our attempts to face these risks, but they also contributed to generating the environmental issues⁽⁸⁾. Thus, these risks are part of the dark side of Modernity, and will continue to exist, while the speed of social and technological change persists in creating non-predictable consequences⁽⁹⁾.

It can be affirmed that our new perspectives on life are based on recognizably unstable terrain. Progress, which in the past was mentioned in terms of an exaggerated optimism and a promise of happiness, has moved in the other direction, and now represents a threat, pointing to moments of crisis and tension. Instead of great expectations and desirable dreams, "progress" evokes periods of insomnia, full of nightmares and, as people incapable of reducing the astonishing rhythm of change, and controlling its direction, we concentrate in what we consider viable: to minimize the calculated risks that can harm ourselves or those closest to us⁽¹⁰⁾.

On the other hand, the commoditization of Nature under the scope of globalization deepens the differences among rich and poor countries. A globalization process that invades the political, technological and cultural spheres, as well as the economic one, cannot support simplistic schemes generated by the potencies that conduct, guide and

impose a civilization standard⁽⁶⁾.

Yet, beyond this discussion, an important aspect that needs to be considered in terms of Reflexive Modernity is related to individualization, which demands of the person that s/he becomes an individual, planning, understanding, projecting and acting, bearing the responsibility for the consequences of this project. Despite the fact that this is a process inherent in any contemporary subject, it is not a simple one, and is fully loaded with anxiety and uncertainty. Dealing with the fears brought about by the new uncertainties has been left to local initiatives, and to the care, engineering and craftiness of individuals. With the progressive dismantlement of the State due to existential fears, it has been a common task "...to find and practice individual solutions for socially produced problems, as well as trying all that through a set of individual, solitary actions, equipped with tools and resources clearly inadequate for this task"⁽¹⁰⁾. With that, uncertainty is perpetuated, problems become private, there is a rise in feelings of solitude and incapacity, excluding the possibility that the subject will be able to find some safety of existence based on collective action. The disincentive to engage in actions of solidarity encourages the individual in a lifestyle which is one of "every man for himself". In a fragmented world, this makes the situation even more uncertain and unpredictable⁽¹⁰⁾.

FINAL CONSIDERATIONS

During the collection of data through the interviews performed, it was possible to determine the views of the academicians associated with health courses about their concept of environment, as well as their understanding of ecological problems. As a result, the concepts found are distinct, oscillating from a more interactionist view that values the inter-complementation of Nature and society; and a naturalized view, in which there is a predominance of a concept of environment through a biological order, typically coined by positivist thought.

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These considerations are even more relevant if we take into consideration that the approach under analysis originated from the thinking of academicians of the area of health, which nowadays suggests an urgent demand of action that permits us to integrate these two important dimensions of human beings.

On the topic of environmental problems, it is undeniable that we are going through an ecological crisis. Based on that, the academicians perceive the human being as the source of serious environmental problems. Others point to the causality of the environmental problems and economic and political matters. This fact demonstrates the typical thought within a contemporary context, according to the theoretical base from sociology, in which there is a behavior guided by the concept of reflexivity, according to which the subjects suffer from the impact of the negative effects of the technical-scientific development, but there is not a deeper reflexive process about the theme, which is able to mobilize a rearrangement of social practices.

On the topic of the practice of environmentally correct actions, the main action performed by the College students was the segregation of domestic waste. However, some referred to some neglect on the part of the public government, and others see the garbage collectors as the only option so that their practice becomes real.

To conclude, it is believed that there is a necessity to discuss the matter in academia, so the students have the opportunity to discuss with the academicians in the area of health, the concepts related to health and environment, promoting the reflection of their responsibilities towards the common environment. Therefore, from a reflexive process point of view about the topic, there is an expectancy to allow some room for discussion that permits us to re-organize the values congruent with the necessary social-environmental responsibility towards a more sustainable society. This strategy can also permit the construction of professional practices with a potential to find a delicate balance between health and the environment.

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