

Perception of socio-environmental risks "imminent risks in the vicinity of their home, analysis of discourse in a community of Hidalgo, Mexico.

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Abstract

Risks are defined as the probabilities for an unpleasant event to occur; they can be measured epidemiologically either by studying the perception and points of view of people who experience issues associated to risks or by match daily risks to their social contexts. **Aim.** Describe and analyze the perception of risks in a socio-environmental setting in order to analyze the inhabitants' discourse and thus learn about the experience of living with imminent risks in the vicinity of their home, on community the Saucillo, Hidalgo, Mexico. **Methodology.** A qualitative ethnomethodological study was conducted and implemented in three phases (analysis of the context, conducting interviews and carrying out a discourse analysis) during such study 4 people participated. **Results.** Historical records of the community where the study was conducted established that inhabitants do not perceive risks in their daily context, such as gas stations or pipelines located near educational institutions such as National College of Professional Technical Education [CONALEP]; moreover, the inhabitants who are daily exposed to risks ignore the reasons the installation of such risky places was allowed and understand that are risky for students on campus. **Conclusion.** The level of education of the inhabitants involved in the perception of imminent socio-environmental risks is crucial for their identification.

Keywords: Perception, socio-environmental risks, ethnomethodology, discourse analysis

Introduction.

A risk is defined as the probability for an unpleasant health event to occur. It is measured and expressed by causal associations analyzed from the epidemiological perspective

(Colimon et al., 1990; Leon, 2014). The natural risks are also defined by determined places and moments of occurrence, as part of a nature phenomenon that is potentially dangerous for a community, being able to cause damage to people and their belongings (López y Vidal, 2012). The dangerousness or threat is known as a natural phenomenon, whose dynamics can overwhelm their most frequent intensity thresholds, magnitude and location, being able to cause harm to people and their property (Ayala, 1988). The United Nations (UN) defines “risk” as the product of the probability of occurrence of a natural hazard or threat, the vulnerability, as an integer, and exposure (Ayala, 1993). The system exceeds a threshold in order to reach a new dynamic regime. These values can be artificially modified by human beings, which could trigger a disaster and which under natural conditions would have taken longer to occur. Therefore, adjustments by human beings to the physical environment for urban or industrial land use generally contribute to the occurrence of disasters (Mardones and Vidal, 2001).

However, the paradigm of research ethnology emphasizes that the characteristics of the real society are produced by adherence to motivated people and their expectations of the world in which they live and socialize, where ordinary everyday practices constitute the only reality of the people (Garfinkel, 1967).

In the paradigm of qualitative research, the researcher is the main instrument. Being aware of the importance of common sense is an inevitable resource to conduct the investigation, (Martinez, 2002). Conducting observations and audio and video recordings make it easier to analyze the repeated scenes and so corroborate or facilitate interpretation; conversations obtained during in-depth interviews are transcribed, the information is organized by themes; key words and phrases in their speech are finally analyzed and interpreted. In order to complement the data collected through in-depth interviews it is necessary to analyze notes and photographs taken during the process.

Qualitative research has focused on the study of social situations and among many things seeks to understand and interpret reality purposes through social actors. It follows a series of stages or steps such as planning the study and record each of the changes that can be made along the study; all the last in a way that is flexible and where the researcher must be prepared to record evidences objectively, establish an approach for the study, collect, categorize and analyze data (Polit et al., 2000; Salamanca & Crespo, 2007).

Cultural theories of risk insist that the perception of sources of risk depends on the belief and value systems of each culture. There are methodological bases, guides developed by the EPA (1989) and Fehr R., (1999) in order to evaluate, manage and communicate risks, but it is still fundamental to venture in this area from the qualitative methodology in order to explore the contextual reality and the way how people perceive these living contexts where the risks are imminent and indeed the cultural beliefs (Aragones et al., 2003) and educational level are closely related the perception of risks.

Therefore, this type of research was implemented along the implementation phases of this project. Since this is a project where there are strong economic interests, it was difficult to obtain information, which as analyzed in a systematic manner in order to explode its usefulness.

The **Aim** of this research was describing and analyzing people discourse on the perception of risks in their socio-environmental context, obtaining information about their experience

of living with imminent risks in the vicinity of their homes, and analyzing their speech and opinions on the eve of glimpsing their reality, their experience, communication of risks to which they are exposed.

Methodology.

Qualitative research was designed from the pragmatic approach where the teacher and students seek nursing notes (Salamanca, 2007). "Every human being knows as true only what is useful in their everyday life". From the phenomenological point of view, there is special emphasis on the essence of human experience, while the ethnomethodology considers that the emphasis is on the characteristics of the real society that are produced by adherence to motivated people and their expectations of the world in which they live and socialize, where ordinary everyday practices constitute the only reality of people (Garfinkel, 2002). Specifically, the methodology of applied research from ethnomethodology is interested in gathering information from observable activities where participants describe their experiences and expressions, share reviews, social and cultural environments aiming to understand what people do in their environment, in their reality (Cohen, 1994; Denzin, 2004).

Fundamentally, ethnomethodology refers to the description of people experiences, which leads to speech analysis of their life experiences in their community. During the development of this research project three phases or moments were followed.

The initial phase was called CONTEXT RECOGNITION "on community the Saucillo, Hidalgo, Mexico" road heading to Sahagún City, and it consisted of collecting visual evidences, such as pictures while walking along the community identifying indicators of life quality, housing conditions, facilities and services such as drainage, running water, electricity difficulties, garbage, and Pemex or gas pipelines, among others.

The second phase was named INTERVIEW. In this stage special care was taken to the kind of langue employed by the interviewees and interviewers who encourage participation and reflection among the participants. The questions were asked separating them by themes or topics in order to keep order of the information provided. It is worth mentioning that interviewees were not interrupted once they started talking, on the contrary their answers were recorded.

In this way it was possible to establish contact with the community who works directly with other people, aiming to record their experiences about the importance of perceiving and being exposed to risks in their daily context.

In order to conduct data analysis, the conversations were carefully transcribed, with prior agreement of the participants. In three phases or moment ANALYSIS OF DISCURSE. They were then grouped by key words or phrases and interpreted according to categories or themes.

Bioethical Considerations: This study did not require written permission from the participants in a letter of informed consent due to the fact that there is no health risk when conducting qualitative research. Participants were initially told about the aims and procedure of this research and agreed to participate. They were told their answers were going to be treated in confidentiality. They were asked to provide honest answers without being forced to speak within a limit of time, on the contrary they could share all what they

felt should be said regarding the issues asked. Therefore, interviewees participated freely. The analysis in this research was carried out from the interpretive perspective, but based on the exploration of a prior knowledge of the population being studied, in this case, having already had the experience of life in their socio-environmental context. (Rodríguez, 2009). Discourse analysis was performed by grouping each of the answers given by each of the people who participated in the interviews, then keywords and / or phrases that showed in meaning common language were identified and contrasted regarding whether or not were part of the scientific knowledge they have so far from the environmental sciences.

The questions were designed to explore issues indirectly, such as whether if they know or not about the existence of health risks and whether if they have the minimum care to avoid exposure to risks. It was essential to know and understand participants' opinion regarding the risks to which they are exposed to. The data collected was recorded and registered in a logbook where the observed information obtained from the interviews was also documented.

Results

The results regarding the discourse analysis are as follows. In order to maximize the ease of understanding the data collected in the previous two phases, the information was written as explicitly as possible. *The description of the socio- environmental context:* The identification of the context as carried out as a tour which started in the neighborhood known as Saucillo located between Pemex Ave. and the road heading to Sahagún City. From the beginning of the road a highly precarious environment was observed, the streets did not have street lighting and paving stone was also required. There was plenty of trash lying around, dogs and poultry birds were found dead along the streets, in other words they were thrown into outdoors without proper treatment for dead animals; Situation that impacts the environment and human health of the citizens of that community. The lack of organization and consistency between government and society is derived from industries implanted there, because there are plenty of ads about the Pemex pipeline saying that there should not be constructions or excavations in such areas.

However, the inhabitants live in a socio- environmental context of risk. There are houses built with foil, wood, block, and lack basic services such as drainage, organic wastes from household chores outdoors were observed. In addition, Pemex pipelines and polluting companies that are at least 1 km away could also represent risks factors to the population.

Moreover, informal food carts do not have proper sanitation of the food they sell, there is a context of vandalism that also denotes the level of education and culture on the organization of trash having clean and secure playing grounds for children.

It is important to note that in this socio- environmental context an educational institution of higher average level called CONALEP (National College of Professional Technical Education) was observed. Two lines Pemex gas pipeline were apparently unplanned because they are located very close from the Campus mentioned. It is located along the main access to the campus, where both staff and students daily walk by.

This particular context confers synergistic impact that might occur if an unpleasant event results from a leaking of gasoline. The topography and location of the pipelines expose the institution to a difficult situation if an unexpected event happened.

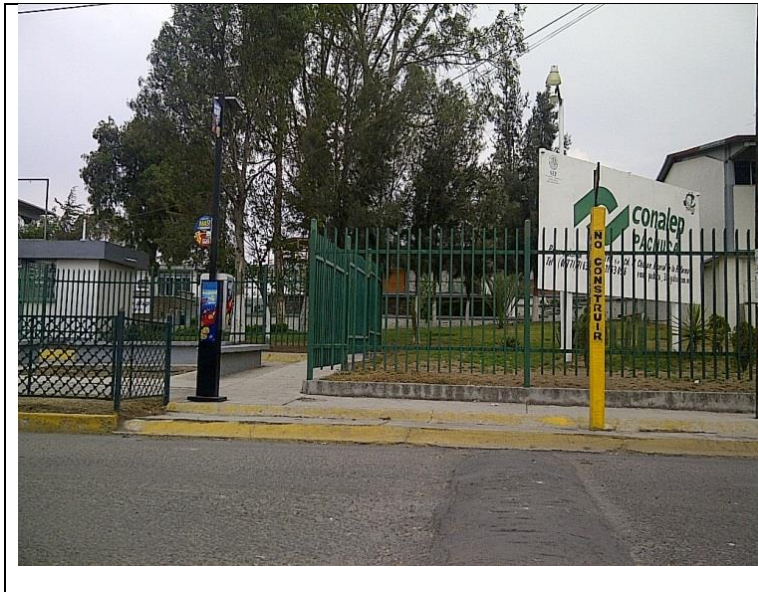


Figure 1. The indicator that says No to build here, danger PEMEX pipeline, is located on the sidewalk of CONALEP school, this center was already built when they placed PEMEX pipeline is observed. In the area have already submitted event risk by leaking gasoline, the worst case scenario threatens to students, faculty and staff of CONALEP, ie, there is the likelihood of unpleasant health event occurs.

Since the area being described also concentrates a lot of industries of all kinds, during the tour there were strong odors derived from waste and trash from the factories, such odors cause discomfort in nose and throat, restricting breathing and causing cough to most of the participants of the research.

(Table 1). Discourse analysis, three people in the community and professional CONALEP.

Categories	Discourse	Discourse Analysis
The origin of the risk	Pemex pipelines came years after there was a school here.	The installation of pipelines represents a risk for students and staff on campus.
Awareness of risks	We had to evacuate a few years ago, it was in the morning and we had to run.	They have had to evacuate, but his gestures when responding denoted is awareness of living in a risky zone. However, in his answers pointed out that there were no risks.
Perception of risk	There are no risks in here.	They do not perceive the risk, or context, or Pemex pipelines located along sidewalks.

Source: Direct, interview and interpretation of discourse, Conalep, 2013

Discussion

It is important to note that people can change the perception of their environment when living in environments where risks are imminent, this means being unable to perceive them. The fact of not recognizing a risky situation of environment denotes that schooling or academic levels of a person are poor. This situation prevails in the interviewees, this makes them live in a context of risks that are nor identifiable by them. They live in situations where life is at stake and their families are facing imminent risks. Under this view, it is

essential to continue conducting research about this issue, but also increasing the possibility for authorities to take care of the population and have a well land use.

Moreover, it is important to generate from this type of findings communication research, before unpleasant events occur affecting authorities and most importantly the society involved in risky environments. Thus, one of the areas that our country should work on is education. Changes in teaching methods by teachers are also necessary, as well as the design of public policies that could attract the attention of students in order to make them reflect about their environment. Moreover, teachers require enabling learners to develop critical thinking skills and research skills that can be applicable.

Questioning and reflecting are at the heart of teaching activities, thus education and health are linked from the constructivist approach which is also applied in biology so that the future biological research can impact with better effects public health. Quality education fosters the population development, which is required to start from the application of pedagogical models from the constructivist approach where knowledge is constructed and collaboration is encouraged though actions such as group collaborative learning, project work teamwork theories and applications such as cognitive modifiability, which generate awareness of learning fostering the understanding and conservation of the environment in order to promote improvements in the style and quality of life (Ruvalcaba et al., 2013).

Conclusions

The interviewees did not perceive risks in their community. The majority of risks are those resulting from exposure to waste and disposal of organic matter that requires the installation of drainage, dust storms. Other type of risks were also identified, for example trash and dead animals, aerosols generated by industries in the area and Pemex pipelines abutting their dwellings and which are located in their stools. Inhabitants of this community have poor educational levels and apparently are used to live with the risks of their socio-environmental context.

Therefore, qualitative research represents a useful tool for exploring the discourse of interviewees who in their expressions and discourse allowed knowing that did not perceived risks even by having the presence of Pemex pipelines among other risks they live within their everyday environment.

It is necessary to promote actions for that encourage community development, generation of healthy life styles and keeping the quality of a healthy life.

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