SOCIAL REPRESENTATIONS OF DENTAL TREATMENT
IN A GROUP OF ENVIRONMENTAL HEALTH
GRADUATE STUDENTS IN LIMA (PERU)

Elizabeth Pozos-Radillo1, Lourdes Preciado-Serrano1,
Ana R. Plascencia1, M. María Carrión-García2,
María de los A. Aguilera1
1 Health Sciences Centre of the University of Guadalajara, Jalisco, Mexico.
2 Universitat Oberta Catalunya, Barcelona, Spain.

ABSTRACT
Social representations are a type of common sense knowledge shared by different groups based on their experience. This study identified the social representations of dental practice in a group of environmental health graduate students in Lima, Peru. Method: We interviewed 25 graduate students using a “focus group” technique and a semi-structured guide. Three groups were formed with purposive sampling. The data were collected during the years 2010-2011, and analyzed using open, axial, selective coding with Atlas-Ti software. Results: Three substantive categories were identified: dental practice, characteristics of the dental care provider and dental practice setting. The social representations that the students identified with dental practice were fear and pain. Conclusions: The negative social representations of dental practice may affect viability and adherence to treatment, so it is important to identify them in time in order to intervene effectively.

Key words: dentist-patient relationships; social perception; dentistry.

INTRODUCTION
Oral diseases are a major public health concern due to their high prevalence and incidence around the world1. Even today, dental caries is the disease that causes the greatest oral health problems in the world. In the year 2000, the Ministry of Health of Peru announced that “dental pathology” had the third most frequent morbidity, was associated with economic, sociocultural, environmental and behavioral factors, and should be dealt with urgently2. Dentalistry works on the mouth, as a biological component, and on the connections between somatic individuality and environmental and social surroundings. Evidence of early impact on oral morbidity calls for a theoretical-practical discussion of the traditional, highly prevalent approaches of current dentistry3,4. Dental treatment as a social process may be approached from the social representation theory based on an epistemology of common sense that brings meaning to everyday knowledge. This knowledge is the fruit of social interactions based on a mental perception of reality, which transforms social objects in their context into symbolic categories. Social representations thus work as a sys-
tem for interpreting reality that governs people’s relations with their physical and social surroundings and determines their behavior or practices. From this standpoint, social representations (SR) constitute cognitive systems in which we can recognize stereotypes, opinions, beliefs, values and norms that often lead to positive or negative feelings. SRs are constructed as systems of codes with values and interpretations defining how men and women act in the world, and are therefore a valuable tool for explaining people’s behavior in this study, which is not limited to the particular circumstances of the interaction but transcends to the cultural aspect and the most widespread social structures. For example, when people refer to social objects, they classify, explain and assess them because they have constructed a social representation of those objects. Some studies on the SR of dental treatment have established the importance of identifying beliefs, myths, habits and behavior related to oral health. Some studies look at social representations of the oral health-disease process in an underprivileged urban population where different aesthetic, biological and sometimes emotional aspects are involved. Other studies focus on the patient-dentist relationship and the importance of communication. Marin et al. (2007) found that SR of dentists from the professional practice perspective differed among participants: the dentist considers anesthesia as the core, while among patients, it is teeth for women and fear for men. Fear of pain is deemed one of the main causes for refusing to seek dental health care, which according to the World Health Organization, leads to high morbidity rates.

This study contributes initial information, which will surely be expanded on in future studies on different groups of dental service users. No paper was found in the literature review referring to the social representations of healthcare graduate students and dentistry, although there are studies on other kinds of users and on the general population, most of which focus on oral health, with very few focusing on dental treatment. Thus, the aim of this study is to identify the SRs held by a group of environmental health graduate students from Lima, Peru.

MATERIALS AND METHODS
Population
The main inclusion criteria for participants in the study were: to be a member of the professions, a graduate student in environmental health, of legal age and of either sex. Purposeful sampling was performed based on two criteria: environmental health graduate students who had had contact with dental care and who studied at that time at the General Environmental Health Directorate (DIGESA). Twenty-five students were divided into three groups (two groups of eight and one group of nine). Environmental health students were chosen for the SR study because due to the nature of their education they had a more holistic view of the nature of health. In addition to scientific knowledge and technical skills, their training includes personal development of a positive attitude that could be related to the meaning of social representations in matters of health.

Construct preparation
Information was gathered by using the “focus group” technique, based on a collective semi-structured interview of a heterogeneous group of students, during which a participative, calm, friendly, relaxed atmosphere prevailed. This enabled the participants to express their opinions about, attitudes towards and experiences with dental treatment openly. A thematic interview guide was prepared to direct the participants’ conversation and personal disclosures, including the subject of dental treatment. Two assistants took notes at the sessions in order to record behavioral information that would have been impossible to obtain by means of audio recording only. This study was made from a qualitative perspective with the support of ethnographic techniques, in the city of Lima, Peru in 2011. Information was gathered from the interviews and transcribed in its entirety into a text processor. Kernels of meaning that came up during the communication and terms of presence or frequency that were meaningful for the analysis of the objective were identified. In qualitative terms, the presence of certain themes, and the behavioral models present in the discourse were reflected by frequency values. This enabled us to isolate patterns and processes of common and different factors and take them to the field in the following data-gathering stage, in a new interview of another focus group. The interviews were considered complete once the subject was exhausted. The interview was conducted at the DIGESA auditorium and lasted approximately two hours per group.
Data analysis
The analysis strategy involved formulating and sifting inferences and distinctions from the data as well as identifying the major meanings in order to codify the information into thematic categories.

The analysis process took place in two stages. The first was the descriptive distinction (descriptive aspects) where abstract codes were created based on particular meanings that allowed us to learn the dominant conceptualization of the social representations of dental treatment and that are included in the results.

The second stage used relational discrimination (explanatory aspects) where relationships or connections found in the descriptive results were established. They will be presented in the discussion by means of an open codification with a “line-by-line” examination of the gathered data as well as data that produced questions and reflections, the category grouping and lastly selective axial coding until a polished category structure was obtained and saturation and integration were achieved.

Coding and information analysis were done with ATLAS.ti version 2.4 software.

Participants were sent personalized invitations which included an explanation of the aims of the study, and any questions they had were answered. Each person was asked to specify an interview session schedule and confirmation, which enabled us to form groups within a minimal period of a week.

Ethical considerations
The interviews were conducted with the participants’ informed consent; the protocol was reviewed and approved under number IISO/CI/18/08 as provided by the 2008 Declaration of Helsinki on Ethical Principles for Research Involving Human Subjects.

RESULTS
Three substantive areas were identified under different categories during the distinction stage when we looked for kernels of meaning making up the communication and whose presence was meaningful for the description of the social representation about how dental treatment is understood: 1) dental care; 2) dentists’ professional demeanor; and 3) dental practice setting. The categories were fear of pain, economics/cost, poor attitude in the dentist, poor dentist-patient communication, and hygiene and annoying instruments.

This paper includes the most important results, obtained by means of an open coding procedure, which underscore some of the identity, performance and understanding traits of dental treatment based on the comments of graduate students in environmental health.

The representations of dental treatment that they hold and which are determinant for their day-to-day actions with regard to dentistry are reflected by the following statements:

1. Substantive area of dental care
   - Connection between fear and pain as causes associated with lack of dental care
     “Dental care scares me because I think dental treatment will hurt. I only see a dentist when I have to, especially when I have a toothache. I consider it a necessary evil.”
     “I don’t go to the dentist because I’m afraid of pain. I’ve always believed it’s going to hurt a lot, and that scares me and makes me feel anxiety.”

2. Substantive area of dentists’ professional demeanor
   - Aspects related to a poor patient-dentist relationship due to poor communication.
     “The dentist doesn’t have a good attitude because he has no patience and doesn’t take enough time to attend to his patients.”

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“I don’t think there is good communication between dentists and their patients because I feel they don’t explain the dental procedures they’re performing and their effects.”

This substantive area of dentists’ professional demeanor reveals the main SR surrounding the patient-dentist relationship. It highlights the need to implement individual and social strategies, to learn about bio-psycho-social alterations, the characteristics of dental patients and their management, and endeavor to improve interpersonal relations in the patient-dentist experience. Interpersonal relationships are needed to cope with the demands of a reality subject to permanent changes. A person’s attitude towards a dentist may be influenced and conditioned by this reality and the dental treatments he or she has undergone. During dental treatment, patients come into contact with the dentist, assess his/her behavior and at the same time form an opinion about him/her; feelings emerge that influence the kind of relationship that will be established.

3. Substantive area of dentistry setting

- Postures regarding dental hygiene
  “The dentist’s office should be clean and tidy, and disposable material should be discarded between one patient and the next.”
  “There shouldn’t be any kind of animals in a dentist office for hygiene reasons.”
- Important equipment and instrument aspects that annoy patients during dental treatment
  “I don’t like the noise made by the equipment, especially the handpiece.”
  “I dislike the lighting very much, especially when it’s in your face to light up your mouth directly, and then to feel the water splashing from your mouth when instruments are being used inside it.”

The above factors occasionally produce negative attitudes of mistrust and anxiety in patients, leading to fear, scant motivation, dissatisfaction and poor dentist-patient interaction. These situations should be analyzed from different perspectives in order to understand patients’ demands, limitations and wishes and thus take action to adapt as much as possible to the situation and its possibilities, fostering changes both in what annoys patients and in patients’ attitudes and behavior.

The results of this research show that the most dominant SR is fear of pain, followed by the expensive treatment, poor dentist attitude, poor communication, hygiene and annoying dental equipment. This suggests that dentistry has developed a disturbing scientific-technical reference about the purpose of its work and about itself, without producing social and epidemiological impact on oral health and disease. Individual SRs are distanced from or contrary to the theoretical-practical principles underlying dentistry because patients perceive the atmosphere of the dental practice as the least appropriate place for the work done by dentists.

DISCUSSION

The main SR in this group of environmental health graduate students regarding dental treatment was fear of pain. Fear of dental procedures is common because it has an impact on them and their quality of life. The appearance of extreme dental fear (dental phobia) leads to high levels of anxiety and progressive avoidance behavior in those suffering from it, with situations such as putting off making a dental appointment, avoiding periodic checkups, displaying behavior during the visit such as closing their mouth, leaning their head away, standing up, slapping the dentist’s hand, screaming, complaining or crying, all of which create a problem for dentists to work. It also induces the patient to abandon preventive habits. The patient will only visit a dentist when he has extreme pain or dental problems. Newton claims that the most frequent triggers for fear of dental work are seeing the syringe, the anesthesia injection, and hearing the sound of the handpiece. The most feared interventions are tooth extractions and root canal. These emotions of fear may have been acquired in the social environment, particularly at home. They lead people to believe that they should only go to the dentist when there is pain or a serious problem. This representation is shared by people who believe that regular visits are not important for maintaining oral health, but rather that they are “a waste of time and money”. Most of the people who hold these beliefs also complain about the excessive cost of dental treatments. Other substantive areas present in the study population’s SR were expense, poor dentist-patient relationship, and poor setting for practicing dentistry. These images held by the participants condition their behavior, which in this case may be refusal to seek dental care.
We need to recognize and differentiate contradictory feelings that produce negative attitudes, determine whether they are human creations due to mistaken ideas, thoughts or beliefs, possibly acquired either during their upbringing at home or due to negative experiences they have undergone or heard about related to dental procedures. One of the most highly valued practical aspects in a dentist’s office is hygiene, which involves the personnel, procedures and work systems. Any negligence in this area could cause cross-infection defined as the transmission of contagious agents between patients and dental care providers or vice versa20-22 because the everyday work of dental care providers involves physical contact with blood and saliva in a septic environment. A negative setting may be the outcome of an accumulation of several factors such as mistrust, deficient communication, and inadequate resources and work environment, as found in the SR of these participants. The idea that dental work is expensive and annoying is based on real perception. Constant technological developments mean that dental equipment and instruments have to be renewed frequently, requiring constant investments to prevent them from falling behind and becoming obsolete. This makes dental treatment more expensive. Some people, especially the underprivileged, have limited access to dental care, and the cost of dental care is a topic that lends itself to great controversy and confusion. The underlying causes of expensive dental care should be studied. Some of these causes are expensive equipment and materials, and the lack of prevention of oral and dental problems. The avoidance of at least a yearly dental checkup makes treatment more complicated and increases costs. When patients visit a dentist for an emergency or in the presence of pain, the situations are more complex and thus more expensive to resolve23,24. Scientific and technical breakthroughs have not made dental care more affordable and less bothersome, nor have they created a pleasant, comfortable environment for patients during treatment25,26. Dentistry is a profession that produces sensations of anxiety, fear, pain and discomfort in patients27. Cortes28 claims that dentists seem to care more about the organism than the body, the sign than the symptom, the individual than the subject. There is no possibility of establishing an intersubjective encounter that would enable the body to speak based on its symptoms, where the subject is represented during dental treatment. During clinical treatment, the dentist asks the patient to open his mouth but not to talk. He only wants to hear information related to the disease, not the history of the person suffering from it. His attention is not focused on the body that suffers but on the painful organism and he becomes engaged in work resulting in biological-mechanical reductionism. This leads to the perception of dentists as unfeeling and cold towards their patients during dental procedures. Cançado29 claims that the success of a dental practice depends on the dentist’s skill in winning over his patients. Another study suggests implementing communication strategies: listen more and talk less. Begin with topics brought up by the patients because they are important to them, and implement strategies to improve dentist-patient communication30. One cause of poor dentist-patient relationships is that dentists are exposed to physical and psychological fatigue in addition to work-related, social and personal circumstances, which affect them more than they do other healthcare providers. This may result in personality changes and mood swings and in extreme situations the “hateful dentist syndrome”, causing negative feelings in patients, who react defensively, and inevitably contaminating the dentist-patient relationship and leading to rupture31. Previous studies on social representations of oral health32-37 have discovered that oral health and disease are influenced by culture, employment, poverty, aesthetics and emotions. Alzate33 and Romero34 claim that social representations of the mouth and hygiene are deeply rooted in tradition and that very little is done to promote nourishment although it is recognized as a part of general health. Similarities among these studies lie in the social representations related to emotions (fear of pain) and poverty (economics). The differences between them and our study could be explained by the fact that they were undertaken with different focuses and populations and deal with different situations such as satisfaction, aesthetics, the relationship with discourse and institutional practices38-42.

CONCLUSION
This study concluded that fear of pain, costly treatment, dentists’ poor attitude, poor communication, hygiene and annoying dental equipment make up...
the social representations of the cognitive system in environmental health graduate students. They were discerned within an explanatory framework of opinions and beliefs that marked their behavior.

We should note that although the formal education, social status and economic resources of the participants in our study differed from those in the above-mentioned studies, the same SR of fear of pain prevails in both kinds of populations. This shows how difficult it is to modify this SR and indicates that professional education, even in the field of health, does not alter the SR of dental treatment, so that the perception is the same in professionals and other populations.

New strategies should therefore be devised to identify the origin of this SR, in order to intervene effectively and change it. This would encourage patients to seek dental care, thereby improving the oral health of the general population.

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CORRESPONDENCE

Dra. Elizabeth Pozos Radillo
E-mail: litaemx@yahoo.com.mx


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