

* Original Article

Health warnings: a communication strategy for reducing smoking¹

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Abstract

The objective of this study is to understand the production of senses created by the images in the warnings displayed on Brazilian packs of cigarettes as a mass communication strategy to reduce smoking. The descriptive report is based on documents obtained from the National Cancer Institute (Instituto Nacional de Câncer – INCA), a Brazilian Ministry of Health agency. The document survey, used as a research technique, allowed for reflection on the discourses deriving from tobacco, which plays a leading role in this social scenario. The shifting of discourse strategies through health warnings transformed from "glamour" to demonization, from images of Hollywood movie stars to images of harm to the body, based on scientific evidence. We have selected the images of erectile dysfunction to analyze the communication dynamics of the discursive shift. We have also based our approach, even if only lightly, on concepts such as the production of senses and representations, which are key in the sciences of images and semiology. The methods of discourse analysis led us to the interpretation of the elements in these images that extend beyond the iconic signs. We have indeed sought to understand the communication ability of the image observed related to the text and context expressed in the subjects, history and sense effects, which extend beyond the cigarette packaging.

Keywords: smoking, health warnings and communication.

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1. Introduction

Evidence of the negative effects of tobacco on people's health began to affect the world population in 1956, when a prospective study on lung cancer was published in the USA by Richard Doll and Bradford Hill (MUKHERJEE, 2012). With advances in clinical epidemiology, that study, as well as a study by Wynder and Graham (1950), reported conclusive results about the relationship of tobacco with many diseases. In addition, tobacco use is currently considered the most significant isolated risk factor for approximately 50 diseases, many of which are severe and fatal, such as cancer, cardiovascular diseases and emphysema. The response of the Brazilian government to this scientific evidence has, however, been late. The World Health Organization (WHO) currently considers smoking as an epidemic disease.

Smoking is recognized as a disease caused by nicotine dependence and is therefore included in the International Classification of Diseases (ICD-10) by WHO and thus must be prevented and treated (ROSEMBERG, 1978). The health of smokers is undermined by many diseases caused by tobacco.

Tobacco is the most significant avoidable isolated cause of disease in the world. There are approximately 1.3 billion smokers in the world, and approximately 4.9 million people die annually because of smoking, 200 thousand of whom die in Brazil (INCA, 2005).

Smoking is currently observed as an alarming epidemic, with shocking morbimortality numbers of its victims. The expectation is that in 2030, approximately 10 million people will die if the current tobacco consumption tendencies are maintained (SANFORD, 2003).

However, despite scientific knowledge and epidemiological data and the tobacco consumption risks for the population, governments have not reached consensus regarding the need to implement control measures to decrease the use of tobacco products. A new global model had to be built such that this understanding of the risk factor concept and the correlation between cancer and cigarette consumption became common sense. This model used advertising strategies, science tools and a civil society lobby. "A disease must be politically transformed before it is scientifically transformed" (MUKHERJEE, 2012, p. 127).

In response to the tobacco epidemic globalization, in May 21, 2003, the Global Health Council endorsed the Framework Convention, a global treaty model, primarily focused on health and negotiated under the auspices of WHO. The Framework Convention represents a change of paradigm for the development of a regulatory strategy in the conduction of issues related to substances that cause dependence. This treaty represents a sign of the promotion of public health and provides new legal dimensions for international health cooperation.

Brazil, as a participant country, assumes the obligation of protecting the right to its population's health and life. Since 1999, the government has advanced significantly, creating a task force against smoking through specific regulatory measures and applying regulations to the tobacco industry, such as prohibiting extensive advertising, prohibiting the sponsorship of events by the tobacco industry and mandating health warnings on cigarette packaging.

In addition to actions in the legislative and regulatory fields, governments have implemented the inclusion of smoking diagnosis and treatment in primary healthcare, as well as educational and informative measures to promote positive changes in the belief, attitudes and behavior

related to smoking. In Brazil, for example, the Health Line Service (Serviço Disque Saúde)/Stop Smoking (Pare de Fumar) of the Federal Police Department (DPF) is a free telephone service provided by the Ministry of Health to instruct smokers on how to stop smoking and is an informative measure without being punitive. The availability of a telephone number that the user can call to learn how to stop smoking is a service directed at citizens, a free line of protection against passive smoking and regulation of the content of products and advertising of information about tobacco products, packaging and labeling.

This paper discusses regulatory actions. The importance of science created an indisputable scenario connecting lung cancer and the smoking habit, proof that led the Ministry of Health, facing public opinion, to declare health warnings, leading to disclosure about the harms caused by tobacco derivatives on the product itself, that is, on the pack of cigarettes.

2. Development

2.1 Health warnings as a strategy to alert consumers

Health warnings are a government strategy directed at the manufacturers of cigarettes so that they recognize the risks to health that their product represents. In the USA, in 1965, the labeling on packs of cigarettes included warnings that read "Warning: cigarette smoking may be hazardous to your health," as mandated by the Federal Cigarette Labeling and Advertising Act. The tobacco industry invested in lobbying and negotiations to increase sales in developing countries so that the regulations of the Act would not be applied in other countries.

In Brazil, the regulations on advertising information about tobacco products were defined 23 years later, in August 1988, when Health Ministry Ordinance #490 was published. The ordinance stated that the tobacco industry must include the following wording on every package: "Warning from the Ministry of Health: smoking is harmful to your health." However, only in July 1996 were the health warnings enforced by law (law #9,294) and based not only on a voluntary agreement between the Ministries of Health, Justice and Communication and tobacco industry representatives.

The first pictures displayed with the warnings on cigarette packaging were added five years later (regulations #104 and #105 of April 2001). Based on these regulations, Canada and Brazil were the first countries to effectively use health warnings with specific laws mandating the inclusion of information about product composition and defining new warnings.

As we trace a timeline, the development of Brazilian health warnings started in 1988 with a short, discrete phrase on the side of the package. In 1995, this general warning message had already been exchanged for several different and more specific messages. In 1996, because of legal measures, the Ministry of Health was granted the right to define new more direct and emphatic health warnings and to replace the term "may cause" with "causes." The first images were introduced in 2001. Two years later, images of higher impact were printed on cigarette packs. In 2008, the warnings evolved to messages accompanied by shocking images, with a special layout covering 100% of the main surface of the cigarette packs, strengthening the defense of a widespread and nationalized health intervention for the control of smoking as a disease and effecting a strong politicization of the health discourse in citizens' private and social lives (INCA, 2008).

This transformation clearly demonstrates that the Brazilian authorities acknowledge health warnings as a communication strategy capable of increasing the population's understanding about the real scale of the harm caused by tobacco products.

The trends in the development of health warnings are currently globalized and guided by international statutes of WHO, which named the Framework Convention on Tobacco Control (FCTC), of which Brazil is a Member-State. The statute's article 11 mandates that each Member must adopt and implement packaging and labeling to increase efficacy.

Since the 1960s, an increasing number of government public health authorities began to require that cigarette companies include warnings on their products (JHA, 1999) as an effective measure to inform society about smoking risks. Cigarette packaging became a possible means of communication.

Evidence has demonstrated that these warnings are effective in decreasing consumption and inducing cessation when the package warnings are large, clear and include strong words and specific effects. The mass information generated in a constant manner has played an important role in reducing smoking (TOWNSEND, 1993).

Prevention strategies, such as health warnings, in addition to diagnosis and treatment measures, resulted in a lower incidence of smoking in Brazil. In a paper published in a special edition of the English scientific journal *The Lancet* (SCHMIDT, 2011), researcher Maria Inês Schmidt highlights that the prevalence of smoking in Brazil has dropped from 32% in 1989, as reported by the National Health and Nutrition Survey (Pesquisa Nacional sobre Saúde e Nutrição), to 17% in 2009, as reported by the Special Survey on Smoking (Pesquisa Especial de Tabagismo – Petab); both surveys were conducted by the Brazilian Institute of Geography and Statistics – IBGE (IBGE, 2012).

2.2 The motivational base of emotions associated with the mass communication strategy

The images in the health warnings produced in Brazil in 2001 and 2003 supported a continuous flow of information about smoking prevention. This fact has strengthened the anti-smoking campaigns as a mass communication strategy in the propagation of knowledge of the harms caused by smoking.

The communicative purpose of the warning images (2001-2003) was based on the stimulus-response of linear, unilateral, bipolar messages, that is, from the sender, who sends the message to the receptor, who consumes and codifies it. The mass communication strategy used by the Ministry of Health did not consider the mediations in this path, the context in which the message is inserted, the social actors who produced it, the different views from different receptors or the cultural elements present in a country of continental proportions such as Brazil, that is, all of the complexity entailed in the construction of a communication process.

Until then, health warnings were a strategy that used scientific facts as the language to inform the public about the consequences of smoking, which were supported by evidence. This strategy appealed to the mind and intellectual nature, disregarding the subject's soul, emotions, persuasive process and representations that are shared and that mobilize identification with the public to the level of changing behavior.

However, the binomial mind and soul, concepts of communication and psychology schools, were associated with the production of health warnings in 2008. The Ministry of Health, through the National Cancer Institute, invited a group of researchers led by Elaine Volchan, a professor at the Federal University of Rio de Janeiro Biophysics Institute (Instituto de Biofísica da Universidade Federal do Rio de Janeiro – UFRJ), to develop studies using the emotions motivational base model in the construction of new warning images that could create more distance from the cigarette pack.

This study based on neuroscientific methods was used to promote government campaigns associating argumentative information with persuasion, using the language of both mind and soul to leverage changes in the population's behavior and action toward healthy choices. The interpretation or attributed values are considered to be intrinsically connected to context, cultural and organizational factors, personal conditions, people's psychological characteristics and the structures of power in organizations (KOTLER, 2005).

Studies on the motivational impact of warnings indicate that they can benefit from multidisciplinary experimental approaches, which has not been commonly observed to date (HAMMOND, 2004; BAKER, 2004; NETEMEYER, 2004).

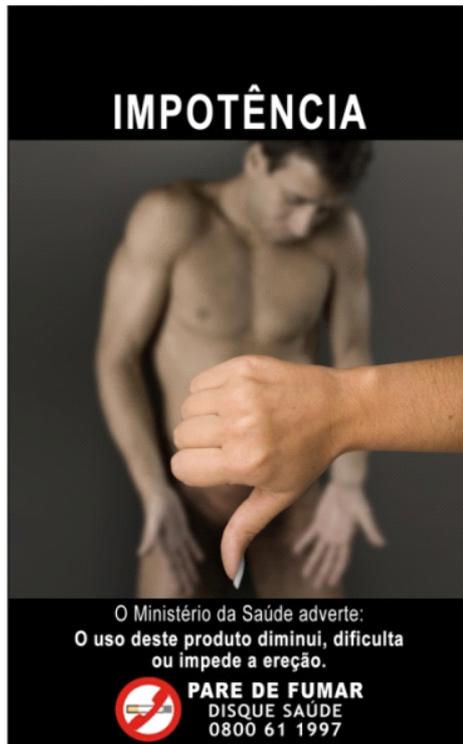
Several scientific studies (FACCHINETTI, 2006; CARPENTER, 2009; PEREIRA, 2006; WILLIAMS, 2008) have demonstrated the efficacy of using frightening messages and images to provoke repulsion. These messages have the potential to raise a negative association with the packaging and, therefore, its product. The association mechanisms compose one of the primary principles of the learning theory in psychology. This theoretical foundation in health, but more specifically, in emotion neurobiology, legitimates the pursuit for materialization of counter-advertising on cigarette packs in the communication field.

The images in the warnings use aversion as a stimulus to cause consumers to feel a repulsion effect to the product. The expectation of response is the decrease in tobacco consumption through the use of scientific evidence based on clinical epidemiology, which indicates the harm caused to the health of the individual and society. The glamorous image of tobacco and the senses of benefits that it used to bring to the individual have been replaced by shock, demonization, aversion and harm.

The images in Brazilian warnings use aversion as neuroscience and neuromarketing theoretical and methodological presuppositions to understand consumer behavior and have supported actions against the advertising of lethal and toxic products such as cigarettes.

2.3 Discourse analysis and the processes of the construction of meaning

Figure 1 – Erectile Dysfunction



Source: INCA, 2009.

To analyze the communication dynamics of health warnings produced in Brazil to date, we have selected the “erectile dysfunction” image (Figure 1). In Brazil, this image is part of a group of 10 warning images with information of highly aversive content that are printed on cigarette packs and that were distributed to the market in 2008.

Why select “erectile dysfunction”? The first argument is that it reinforces the cultural and religious identifier in our society. This theory is supported by Birman (2010): “the prohibition of smoking is based not only on the existence of several cultural, religious and social codes but also on political health traditions and those in the field of public health.” The author reinforces that “when faced with the threats of smoking, not only do *science and medicine discourses* define the fields of ethics and politics in the social experience, but other aspects of the social order should also be considered” (italics added).

From the iconic point of view, images emphasize moral elements. For example, the image of the dying father on a hospital bed being watched by his wife and son (Figure 2) stresses the suffering of the family caused by the absence of the father who will die from cancer because of having smoked during his life, highlighting the guilt and responsibility for the act of smoking.

Figure 2 - Suffering



Source: INCA, 2009

In this discussion about individual autonomy and state censorship, Barros (2010) expresses his astonishment concerning these collective coercive actions conducted by government health programs, which strengthen the civilizing process and do not acknowledge respect for autonomy and dignity as an ethical imperative.

Thus, despite being bothered by cigarette smoke, I feel a lot more molested by the ideological vigilance, which is far less concrete and sometimes more detrimental in the construction of relationships based on respect and responsibility. Great part of the prohibition and control currently developed in the field of health is based on health economics, but life is far from being simplified to accounting rationality, and forcing this association is an alienating process. (BARROS, 2010, p.21)

Bateson (1987) supports the second argument for the selection of the erectile dysfunction image. The author transfers the issue of fiction, from the non-real to cultural studies, where the "real" genre is a consistent cultural construction, subject to diagnosis, precisely from the circumstance of proof. Although reality is a fiction created by human language systems, it is also a recognition and classification cultural code for experiences (SPITZ; GAMBA JÚNIOR., 2007).

The warnings published in 2008 indicated the use of realism in the most aversive images. That classification, after being tested on 338 young people, aged from 18 to 24, smokers and non-smokers, indicated that the images that displayed body injury were considered to be more unpleasant (more negative valence) and more intense (higher activation).

However, erectile dysfunction escapes this rule because it does not involve body injury to create detachment of the object and thus causes less impact with decreased aversion. It is different in the sense that it can be classified as satirical humor because of the humorous tone of the image of the finger pointing downward. This symbology can be interpreted differently

depending on the cultural context of each subject. The context and cultural trajectory of subjects in a society can alter the representation and meaning of the image.

The “erectile dysfunction” image indeed had an initial conception. Originally, the academic group produced an image that showed bodily injuries, and the male sex organ was replaced by a hole with blood around it and two hands on the sides, a symbolic gesture of impotence. That image had a high level of aversion during the pre-test with university students, reinforcing the aversive proposition of bodily injury. However, the technical evaluation was overcome by politics.

Figure 3 – Erectile Dysfunction



Source: INCA, 2009

Brazil is one of the few countries in which warning images are subjected to a political evaluation. The National Cancer Institute, an agency linked to the Ministry of Health, presented the 19 prototypes of images considered as the most aversive, and 10 were selected to be distributed by the industry, as established by law. At the time, the Ministry of Health reinforced the technical and scientific discourse, maintaining its selection of the 10 images considered to have highly aversive content, with the exception of the “erectile dysfunction” image (Figure 3). Researchers and technicians argued that the subject could not be disregarded and that this warning to the male audience was necessary. Based on this fact, the Ministry of Health convinced the group and requested changes in the image, attenuating its impact.

Because of a political evaluation of the technical studies, the creation of a new image for erectile dysfunction in the studio was needed within a short time frame. Given the urgency, the new image could not be tested, and yet it is currently printed on cigarette packs.

The reasons exposed above led us to select the new image for “erectile dysfunction.” We will present an analysis that will certainly not be an imminent structural discourse analysis of the narrative based on Saussure, founder of French linguistics. The author proposed the analysis of the text through structuralism, clipping and describing elements and their meaning, without

discussing the history and the subjects involved in the linguistic problem, in a synchronic clipping and an analysis of the text itself.

We understand the importance of this angle, which is why we have included not only the analysis of composition of the text elements but also an approach to the study of the image as a semiologic system and the understanding of the meaning of the text and image mixed with cultural aspects.

The key representation concept was studied by semiologist Roland Barthes, who applied collective representations to the concept of sign systems, that is, reproducing something that once previously existed in the conscience (SANTAELLA, 1989).

Barthes presents semiology as an access route to the discourse analysis method and discusses social practices, that is, the subjects are those who create the rules and who wish to explain the processes of meaning construction. The "semiology of signification" method, issued along with studies by Barthes, is characterized by the analysis of statements, considered to be closed systems of signifiers that denote and connote certain meanings, leading to a determined ideological (non-contradictory) conception of the world, which the analysis should unveil. The author inserts two aspects into language, social and power aspects.

If it were possible to summarize the proposal of semiology by Barthes in one question, it would be: How is meaning produced? The author's proposal was to deconstruct the appearance of something natural, through interdiscourse, of what is said or implied "between the lines."

The combination of the plural idea of Bakhtin's text and the concepts of polyphony and dialogism add up to the work of Barthes. Bakhtin's analysis is intertextual, that is, it is an analysis of the text in its context, how other texts intersect one another and reveal cultural mediations. This approach reveals how the human and historical aspects of language are incorporated into structural analysis.

This is the object of knowledge. Every language is ideological, and the meaning creates the notion of context, which depends on the codes of a culture, provided by the author and the reader – social semiosis and communication processes. The question in this case is how the meanings circulate and how they are consumed.

Discourse analysis (DA) is a method from the 1960s and concerns the memory of the text, or what has been constructed (ARAÚJO, 2002). The author describes that the work of the analyst is to reveal the mythmaking, the culture in universal values, and to identify the processes of interdiction silencing located in the conditions of text production.

The proposal is to examine the warning image and read it with the memory of what was socially constructed, remembering previous processes. It is an attempt to analyze how the meaning was produced and realize that the image and text are a joint production, as an example of the images and messages of health warnings. The intention is to conduct an applied semiology using DA.

To Barthes (2005), advertising is a language that is supposed to "catch our attention: it has a trigger, a spring, a leap, a sudden assault." Over the past 10 years, the images of warnings evolved to a level of message associated with metaphorical figures. Facing the same meaning,

a signifier replaces the other to demonstrate the evil arising from tobacco, and emphatic signs of bodily injuries are used in a comparative assertion.

The tobacco industry has guided its advertising by metonymy, defined by Barthes as a semantic process of contagion. The product takes advantage of the desire contagion. To Barthes, the power of metonymy provides "desire with the means of access to meaning."

To compete with the metonymy technique selected by the tobacco industry to infect the audience with desire for the product, the Brazilian government sought metaphors, in the grotesque, the counter-advertising, the antiphrasis, marked by emphatic signs of illogic, in a realistic and honest communication. Aversion was the trigger developed to create a distance between the consumer and the product, an unexpected aggression that dissociates the desire from the product.

The image of erectile dysfunction associated with the message "the use of this product decreases, hinders or prevents erection" applied to semiological analysis indicated that to be aversive, it needed to be portrayed as beyond normal; it needed to be pathological, to provoke the consumer, to go beyond normal limits. Such emotional stimulus can be proven when the consumer reacts to warning images by covering them with other objects to keep them out of sight. Abandonment and distance from the product occur when the image is aversive enough to cause the consumer to hide it. These are emotional stimuli of avoidance or cultural gestures that demonstrate the effectiveness of this counter-advertising.

The image comes along with scientific knowledge. Visuality has always been an important sense for science that relied significantly on vision, and it was through vision that science built its knowledge. Science has managed to record scientific proof through images in the form of visual evidence that has a component of truth.

The phenomenon occurs at the time when the subject perceives the world and describes the encounter with the warning image. Barthes calls this phenomenological study "death through the image" because something persists that can no longer exist. Thus, the perception of the warning image and the material, corporeal and cultural relationships that each individual has with the image accompanied by the phrase, at times approaching it in a euphoric act and at times in an aversive or dysphoric manner, can be different.

Therefore, in a country as large as Brazil, the behavior of a consumer from Piauí (in the Northeast region of Brazil) is different from that of a consumer in Porto Alegre (in the Southeast region), a diversity that is part of our daily relationship with the world. This difference implies that we act according to valuation standards, that we take actions that are an inference of signals according to our judgment of values. Subject interpretation occurs according to *cultural identifiers*.

This is the semiotic trait that makes the difference in warning images. The images produced in 2001, 2003 and 2008 bear statements that are culturally recognized, such as family, beauty and virility, and it is within this universality that differences are observed.

The image of erectile dysfunction, which has evolved over the past decade concerning the aversion it causes, can have the factor "impact on consumption due to the image" changed because of the different interpretations by each person who looks at it, having or not having a decreased effect on the scale of indicators.

In the countryside of Brazil, for example, a conservative region may witness a large effect on consumption attributable to the image, an effect that does not occur in large cities where this topic is no longer a taboo; therefore, it can cause different reactions in individuals that could even alter the categorization of the image.

3. Conclusion

The discussion in this paper provides evidence that messages and warning images bring to consumers knowledge about the diseases caused by tobacco, in the form of smoking.

By understanding that the initial action of an individual to begin reading and interpreting a message is to obtain knowledge, the Brazilian government used the pack of cigarettes as the object bearing the statements and conveying truthful information about the harmful effects of the consumption of the product.

This strategy increased the knowledge of the disease and also of cigarettes as a risk factor. This statement can be confirmed by the National Household Sample Survey (Pesquisa Nacional por Amostra de Domicílio – PNAD) conducted in 2008, in which 96.1% of Brazilians over 15 years of age said they believed that smoking could cause serious illness (IBGE, 2010).

With similar rates, the Global Adult Tobacco Survey (GATS), which systematically monitors the use of tobacco worldwide, conducted a survey in 2009 in Uruguay and observed that of the 5,581 respondents, 97.6% of adults believed that smoking causes serious health risks.

The persuasive arguments of the Brazilian government were for the deglamorization of the product. The strategy was to provoke revulsion by the use of shock and the grotesque, and it caused a legal and argumentative conflict claiming that society is treated as a spectator, but the approach has created significant effects in reducing consumption.

According to the GATS, in 2009, 44.6% of smokers thought about quitting when exposed to images of warnings, which represents data showing the effect of the images of warnings as a factor inducing the drop in consumption of cigarettes in the country, but it is not the only factor. There are several other discourses that are circulating, enhanced by a polyphony ranging from damage to individual and collective health to government campaigns geared toward a new conception of smoking as a harm to health. The idea of health includes many cultural mediations that are important in this arena of healthy living as an imperative in the modern world (FREIRE FILHO, 2011), such as increased life expectancy and the association with exercise and light food with no fat, and not smoking is also recommended as a healthy habit.

The images and warnings on packs of cigarettes add to this context, which consists of a set of factors. As a result, Brazil has been surpassing the goals of reducing consumption established by WHO and achieving a high degree of aversion.

What is the next step in this journey? Is there another possible impact of the images beyond aversion? In Canada, for example, new health warnings were published in 2011. They combine shocking images with messages of encouragement on cigarette packs.

Another interesting element is that aversion is not a natural effect of an image. The images shock because people are not accustomed to seeing that type of raw representation. As these

images have been spreading through space and time, it is conceivable that an effect of trivialization could occur and will thus reduce the impact and ability to cause aversion of the images. The creators of public and communication policies will need to reflect on this possibility of the reduction of the impact of the images.

One purpose of contemporary communication theory is the reactions one wants to obtain from the receiver; thus, we can determine whether the goal is being met. The target audience for the messages and images of health warnings are young non-smoking Brazilians. For those who have not acquired the habit of smoking, the government's proposal is to produce images that drive young people away from the pack of cigarettes, making it increasingly less attractive. For this audience, the inquiry would be: What type of additional information should be provided to increase the impact on this segment of the population?

Another exposure of the segmented target audience was introduced by the PNAD survey in 2008 (IBGE, 2010). It became evident that the audiences less affected by the images of health warnings were those of low income and education. How do we produce different types of messages for different audiences?

To what extent are the lower social and less educated strata accustomed to seeing mutilated, suppurating bodies, open wounds, injuries that do not cause surprise or shock, while high society lives in an aesthetically clean world of beautiful and silky skin without lesions? This higher social layer is more easily shocked by visceral reality through viewing bodily injury, erysipelas and other disorders.

These questions are currently without answers because there are no studies that evaluate or qualify the images of the warnings produced in 2008. It is thus recommended that qualitative studies using images from the warning database be conducted, applied to different locations and aimed at different audiences to measure whether the metaphorical visualization that portrays the bodily damage that results from smoking is effective enough to prevent the attractiveness of the product and inhibit the urge to smoke.

A study of the reception among different audiences, smokers and non-smokers of different ages and social classes, would be essential to decrease the space between what is in the minds of those who create the messages and the consumers, producing multiple senses and also applying these senses differently in their habits, behaviors and thoughts.

That is, how much can the theory of language contribute to a study of healthcare? Indeed, it may help to think about the historical and cultural approaches to representation and to consider that the sense that these representations produce is the result of several of these cultural mediations, which are linked to gender, age, social class, life history, subjectivity and other factors.

The history of warning images reported in this paper poses challenges to the healthcare field regarding how to develop these public policies. One of these challenges is precisely related to the senses caused by this anti-smoking campaign that incorporates images in health warnings, which uses common sense and current morality to shock people. At what moment will the abusive use of aversive images lose their ability to shock? From what point will the images of warnings need be reworked to maintain this effect of shock and aversion? These are concerns and issues that qualitative language studies, methodologies and theories can discuss and for

which they can be instruments in facilitating new discoveries that will assist in the discourse between the fields of communication and health.

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