

## THE MEANING OF THE RUBELLA VACCINE FOR PREGNANT WOMEN<sup>1</sup>

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*The research was aimed at describing the meaning of the rubella vaccine to women who were discovered pregnant after having received the measles-rubella vaccine during the 2001 campaign against rubella, and who lived in 10 cities within the region of DIR XX from São João da Boa Vista. The theory of Social Representation was used as a reference framework for the research, and data were collected through the Collective Subject Discourse technique, involving 18 women who either were pregnant or became pregnant within 30 days after having received the vaccine. Through their discourse, it was possible to unveil the diversity of meanings the rubella vaccine has when dispensed during pregnancy, characterized as a threat to their and their children's physical integrity and to their conjugal relationship. The meanings constitute an important source of information that allows health professionals and administrators to reflect, so they can reconsider their role as health promoters.*

**DESCRIPTORS:** pregnancy; rubella vaccine; rubella syndrome; congenital; prenatal care

## EL SIGNIFICADO DE LA VACUNA CONTRA LA RUBEOLA PARA LAS MUJERES GESTANTES

*Se trató de describir el significado de la vacuna contra la rubeola para las mujeres que se enteraron del embarazo después de recibir la vacuna dupla viral, debido a la campaña contra la rubeola-2001, en la DIR XX de São João da Boa Vista. Fue adoptada como referencia la Teoría de la Representaciones Sociales. La colección de datos fue realizada a través de la técnica de Discurso del Sujeto Colectivo con 18 gestantes y mujeres embarazadas hasta 30 días después de la aplicación de la vacuna, consideradas susceptibles a la rubeola, habitantes de 10 municipios de la región. Considerando los discursos de las mujeres, fue posible detectar los diferentes resultados de la vacuna contra la rubeola cuando es aplicada durante la gestación, representada como amenaza a su integridad, a la de su hijo y a su relación conyugal. Esos significados se constituyen en importante fuente de información que brinda a los profesionales de la salud y gestores una reflexión sobre desempeño de su papel como agentes promotores de la salud.*

**DESCRIPTORES:** embarazo; vacuna contra la rubeola; síndrome de rubeola congénita; atención prenatal

## O SIGNIFICADO DA VACINA CONTRA RUBÉOLA PARA AS MULHERES GRÁVIDAS

*Buscou-se descrever o significado da vacina contra rubéola para mulheres que se descobriram grávidas após receberem a vacina dupla viral, por ocasião da campanha contra rubéola-2001, na DIR XX de São João da Boa Vista, SP. Adotou-se como referencial a Teoria das Representações Sociais. A coleta de dados foi realizada através da técnica do Discurso do Sujeito Coletivo com 18 mulheres grávidas e que engravidaram até 30 dias após aplicação da vacina, consideradas suscetíveis à rubéola, residentes em 10 municípios da região. Através dos discursos das mesmas, foi possível desvelar a diversidade de significados da vacina contra a rubéola quando aplicada durante a gravidez, representada como ameaça à sua integridade, à de seu filho e ao seu relacionamento conjugal. Esses significados constituem-se em importante fonte de informação que propicia aos profissionais de saúde e gestores reflexão sobre o seu papel como agentes promotores de saúde.*

**DESCRIPTORES:** gravidez; vacina contra rubéola; síndrome da rubéola congénita; cuidado pré-natal

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## INTRODUCTION

*P*regnancy and delivery are special social events that are part of women's reproductive experience, but also influence men, families, communities, health professionals and institutions.

Pregnant women are constantly concerned with their baby's health, mainly with respect to the health state, specifically malformations, creating factors of emotional instability. The group of diseases that can create malformations include rubella. Its most important consequence is the Congenital Rubella Syndrome (CRS)<sup>(1)</sup>.

In compliance with recommendations by the Pan American Health Organization, the Brazilian Ministry of Health has elaborated a vaccination plan for the rapid control of the CRS, using the double viral vaccine against measles and rubella (strain RA 27/3). In the State of São Paulo, women between 15 and 29 years old were vaccinated between November 5<sup>th</sup> and 16<sup>th</sup> 2001. As the rubella vaccine can provoke viremia, it should be contraindicated during pregnancy, and pregnancy should be advised against for one month after its application<sup>(2-4)</sup>.

At the São João da Boa Vista Regional Health Board (DIR XX), 82,050 women between 15 and 29 years old were vaccinated, 294 of whom were pregnant at the time of vaccination or got pregnant during the first month after its application.

Before the end of the vaccination campaign, the municipal epidemiological surveillance teams contacted the Technical Group for Epidemiological Surveillance, reporting that women who were pregnant or were suspecting a pregnancy had taken the rubella vaccine and were attending Basic Health Units (BHU) to receive orientation. Thus, these teams wanted to share their doubts, exchange information and obtain knowledge to respond to these women's demands.

In the following months, as part of the team of interviewers in the research developed by the State Health Secretary (SHS) among these women which, according to the free and informed consent term, intended to contribute to reaffirm the safety of the rubella vaccine when applied during pregnancy or to women who got pregnant within 30 days after its application, we could observe these women's anxiety, doubts and suffering, due to the possibility that the vaccine would cause a problem for the child they were expecting.

Thus, due to this health intervention, the pregnant women were submitted to an additional emotional burden in the face of the perspective of having a child with CRS. Based on this premise, this study aims to describe the meaning of the rubella vaccine for women who found out they were pregnant after receiving the double viral vaccine on the occasion of the vaccination campaign against rubella.

## METHODOLOGY

We decided to carry out an exploratory and descriptive study with a qualitative approach, using social representations as a theoretical reference framework. This contributes to get to know the women's perspective on the intervention they were offered, and the meaning constructed on the basis of their experience.

Representations in social sciences are "defined as categories of thinking that express reality, explain it, justifying or questioning it". These correspond to real life situations and can be considered raw material for the analysis of the social, picturing the reality the subject lives in. Social representations are mediated by the "language of common sense, taken as a form of knowledge and social interaction". Through common sense, "the social actors move, construct their life and explain it through their knowledge inventory"<sup>(5)</sup>.

After the end of the campaign, it was discovered that 294 women were pregnant or got pregnant within 30 days after the application of the vaccine. These women were identified through the "Notification Form of Pregnant Vaccinated Women", forwarded to DIR XX by the Municipal Epidemiological Surveillance teams and submitted to rubella serology, using the ELISA method (IgM and IgG). The serology results were analyzed in relation to the time passed between the vaccination and collection dates, and the women were classified as "susceptible" or "immune to rubella".

In 136 of these 294 cases, the women's immunity situation could not be defined because more than 70 days had passed between the vaccination and collection date, or because the collection was not performed; 131 women were considered immune. Twenty-seven women were considered susceptible, because they presented positive IgM serology or IgG with low or inconclusive avidity.

Women were excluded from the sample if they presented an indeterminate immunological situation or were immune; if they were susceptible and had suffered an abortion; if they refused to participate in the study; if they gave birth before being identified as susceptible; if they moved outside the area covered by DIR XX and if they continued being susceptible even after the vaccination, as seroconversion does not occur in about 5% of vaccinated individuals<sup>(3)</sup>. Thus, the sample was composed of 18 susceptible women who lived in DIR XX, which is one of the 24 health regions in the State of São Paulo, covering 21 cities.

Data were collected in June and July 2002, still during these women's pregnancy period, through semistructured and recorded interviews. Ethical aspects of research involving human beings were respected, in compliance with Resolution 196/96 by the Ministry of Health and approval was obtained from the Institutional Review Board at the Unicamp Faculty of Medical Sciences.

The interview was composed of two parts. The first meant to characterize the subjects, while the second proposed the woman to report on what she felt when she discovered that she was pregnant and had taken the vaccine against rubella.

To order the data, we used the Collective Subject Discourse (CSD) technique, according to the methodology proposed at the end of the 1990's by Lefèvre and Lefèvre. The CSD is a methodological procedure for qualitative empirical social research which, using a discourse strategy, aims to clarify a social representation present in discourse, which is the way people think<sup>(6)</sup>. The discourse is presented in the text in italics and without inverted commas.

## RESULTS AND DISCUSSION

### Subject characteristics

The women in this study live in 10 (47.6%) of the 21 cities of DIR XX. Their ages range from 21 to 30 years, with a median of 25.5 years. As to education, 22.2% (4) did not finish basic education, while 33.3% (6) concluded this phase, 38.9% (7) terminated secondary education and 5.6% (1) higher education. What the type of conjugal union is concerned at the time of vaccination, 55.6% (10) were married, 27.8% (5) were single and 16.7% (3) lived with a fixed partner.

In terms of gestational age, 55.6% (10) were not pregnant and 44.4% (8) were already pregnant at the time of vaccination. Among those women who were pregnant, gestational age ranged from one to three weeks, with 25% (2) in the first week of pregnancy, 62.5% (5) in the second and 12.5% (1) in the third.

The number of prenatal medical appointments ranged from three to seven, with a median of 5.5. As to obstetrical antecedents, none of the women had suffered an abortion and presented a parity of between zero and two pregnancies. During the course of this pregnancy, 27.8% (5) of the women reported on clinical and obstetrical problems like hypertension, allergy, anemia, urinary infection, bleeding and threat of premature birth.

All women were submitted to a morphological ultrasound between the 17th and 36th week of pregnancy, with a median of 25 weeks. Results did not reveal fetal morphology alterations in any of the pregnant women under analysis.

### Discourse analysis

The analysis of the central ideas (CI) and CSD revealed seven central ideas about the meaning of the vaccine for the pregnant woman: the vaccine as concern about the confirmation of pregnancy; the vaccine producing fear and despair due to the possibility of generating a child with malformations; the vaccine as the cause of the desire to have an abortion; the vaccine as a cause of malformations in the child; the vaccine as a cause of abortion; the vaccine as a motive to seek information; and the vaccine as difficulty for the conjugal relationship.

CI: the vaccine as concern about the confirmation of pregnancy

It is observed that the doubt about being pregnant or not continues, even after the exam to diagnose the pregnancy, which is one of the most common manifestations of the ambivalence<sup>(7)</sup>. These feelings, which are observed in a pregnancy that is considered normal, take on bigger proportions, like in this pregnancy these women experience. The woman takes several tests to confirm it and in different services: *I bought the test at the pharmacist's and did it... Then I went to do another test... private actually... I also did another one through the health unit.*

CI: the vaccine producing fear and despair due to the possibility of generating a child with malformations

Although for many women, pregnancy is a period of euphoria and pleasure, it also corresponds to a critical period in life. It favors the weakening of adaptive mechanisms of the ego, demanding the use of new resources to seek solutions that lead to the solution of the crisis, which can permit the expansion of the woman's personality, with higher levels of maturing and emotional integration<sup>(8-9)</sup>.

After the pregnancy diagnosis is established, the woman experiences exacerbated feelings of concern, fear and despair in the face of the possibility of having a child with malformations. This is one of the universal fears of pregnancy, mainly due to the fact of having received the vaccine against rubella<sup>(7)</sup>. Pregnancy in these conditions presupposes a risk situation, if not due to medical conditions, then to psychosocial conditions, representing a greater emotional and social problem, increasing the woman's feeling of anxiety and ambivalence and favoring conflict situations to the extent that she expresses<sup>(7-8,10)</sup>: *...I could not find a structure in me... to face all of this.*

But, during the experience of this process and, hence, before its solution, the woman can present physical, mental and emotional symptoms, such as insomnia, lack of appetite, weight loss, crying, agitation, anguish, depression, tachycardia, apathy and headaches, which can be a cause of great suffering<sup>(7)</sup>.

Thus, the woman expresses: *...I got very concerned... I got frightened... I was desperate... I almost died... I cried more than I talked... I was scared... so I remained in a state of despair, because of this, nervous... I couldn't even sleep... I kept on feeling bad...*

CI: the vaccine as the cause of the desire to have an abortion

When faced with the diagnosis of pregnancy, women can go through a temporary emotional disorganization. Part of this process is affective ambivalence<sup>(7)</sup>, that is, contradictory and concomitant feelings about the desire to keep the child in the face of the possibility that the child *...will be born with a problem.* Acting at the same time, these feelings lead the woman to conflict, creating suffering and threatening the integrity of her ego<sup>(8)</sup>. The justification presented for having an abortion rests on the expression *...because it*

*is already difficult to raise a normal child...* The woman discerns extra difficulties in function of the possible anomalies she supposes the child can present and she does not feel capable of positively answering all of the demands connected with raising a child with special needs.

CI: the vaccine as a cause of malformations in the child

According to this idea, the woman expresses her concern about the consequences of the vaccine for the child, based on the disease *...oh dear! As far as I know about rubella, it's a thing that causes malformation...* But the vaccine against rubella entails a low theoretical fetal risk. Although there is no evidence of the occurrence of post-vaccine CRS, the vaccinal virus can cross the placenta barrier and infect the fetus. Due to the possibility that the vaccine against rubella will provoke viremia, it is contraindicated during pregnancy and is accompanied by the advice to avoid pregnancy for one month after its application<sup>(1,4)</sup>.

A study carried out in the United States between 1979 and 1988 found that subclinical fetal infections were serologically detected in 2% of infant of vaccinated mothers and the rubella virus was isolated in 3% of the fetuses of women who suffered an abortion and had received the vaccine with the strain RA 27/3 during their pregnancy<sup>(11)</sup>. In 2001, the Center for Disease Control and Prevention (CDC) reviewed data from different sources about the vaccine against rubella applied during pregnancy, in the period from one to two weeks before until four to six weeks after conception, showing a theoretical risk ranging from zero to 1.3%<sup>(4)</sup>.

The woman's concern about the vaccine is expressed in function of her knowledge about the harm provoked by the disease, *being born with a brain problem, various difficulties... a lot, a lot of problems.* During the pregnancy, this knowledge will also be imprinted by the people the woman has contact with and by health team professionals themselves. The woman expresses herself in a contradictory way in the face of the information she receives: *...because some people say like this...that there is no danger... others that there is like a bit of risk...*, strengthening the pregnant woman's ambivalent feelings.

Fear arises due to the fact that the woman and her family will not be able to pay for treatment: *...my family is poor... we don't have resources for the treatment.*

The emotional adaptation difficulties of women submitted to this process are enlarged, adding new emotions. An actual fear emerges, the fear that the child will be born with abnormalities<sup>(7)</sup>.

The woman feels responsible for the risk situation imposed on the fetus: *My mistake was having taken the vaccine* and for the consequences for the child's health, due to the fact of having contributed to the 'transmission' of the disease. Feelings of guilt and failure can make the woman feel different from other pregnant women, creating an image of herself as a bad mother, which damages her self-esteem and affective bond with the fetus, jeopardizing the woman's emotional development during her pregnancy process<sup>(7,12)</sup>.

CI: the vaccine as a cause of abortion

In the same sense as the previous idea, the woman addresses the fear, now in relation to herself: *I had a bleeding twice, I had to rest...*, and in relation to the outcome of the pregnancy, the impossibility of a full-term pregnancy, the loss of the fetus: *...I thought I wouldn't bear the pregnancy until the end...*

Now, she considers the vaccine responsible for the risk situation she is experiencing, as a way of mitigating her feeling of guilt: *...and nobody can make me stop thinking that it was because of the vaccine.*

When she expresses *just now that I decided to get pregnant... this happened...*, a violent breach is observed in the woman's expectation about pregnancy, and the process that occurred within the adaptive normality is ruptured, with a feeling of losing control of what is happening with her body and with the pregnancy, which can intensify the crisis<sup>(13)</sup>.

CI: the vaccine as a motive to seek information

In this idea, the need for knowledge becomes evident in order to experience the process, as the woman perceives that, at the moment she most needs it, it is not available: *When we go through this, we perceive that... as we don't know about things...* She also feels guilty about not having the knowledge that one day she already had contact with and which she did not value: *When you study... you never pay attention. Suddenly you need it, you start to analyze how important that is and you didn't value it.* This extract refers to the idea that a piece of information can only play its role when it truly makes sense to the woman.

As a way of apprehending this knowledge, the woman turns to other pregnant women who had taken the vaccine: *I used to ask... I kept on asking people who had taken it, what the doctor had said...* Furthermore, there is the search for information about the theme through other sources: *I also used to go to the library, I read so much!*, and by observing children with some kind of impairment *...I used to, like, pay attention, but not to find out about the person's life... but to get to know, to see if... visual impairment... hearing...*, as a way of obtaining knowledge that would help her to understand what was going on with her, with the child she was expecting, which she would have the responsibility to raise and educate afterwards.

Malformation becomes a threat to the woman to the extent that she feels incapable of raising that child well *"...whose consequence would be a disloyal and evil creature, like those who are 'every mother's nightmare'"*<sup>(14)</sup>, or *"are afraid that they won't be able to cope with educating a child who, in the eyes of society, could turn into a 'monster'"*<sup>(7)</sup>. The fact that the woman has taken a vaccine that, theoretically, entails a risk for the fetus, makes her fear the chastening of having an unhealthy child<sup>(7)</sup>.

It is important for professionals who work with pregnant women to facilitate the communication process, allowing them to express their doubts and difficulties, and to act as knowledge structuring facilitators for these people who experience that specific pregnancy and who, therefore, have specific knowledge needs<sup>(7)</sup>.

CI: the vaccine as difficulty for the conjugal relationship

The last idea that is presented shows that pregnant men also go through the same emotional development transition process as their partners, presenting contradictory feelings of acceptance and rejection of the fetus, and anxiety created by the impact of the pregnancy in their lives, living and reacting to their experience in a particular way<sup>(7,9,14)</sup>.

In this perspective, the man can blame the woman for having put his child in a risk situation: *My husband keeps on talking in my head... he thinks I'm to blame... what I did, taking the vaccine is madness... even today he tells me...*

The man who experiences the pregnancy has fears, sensations, pleasures and displeasures. These emotions also need to be known, acknowledged and addressed<sup>(15)</sup>.

Fear arises: *The baby's father is afraid; nervousness: He gets very nervous, he doesn't understand very much either*, because he thinks he is not able to cope with the situation. These feelings also occur because the man has been excluded from the reproduction process and does not find any bond with the health service and with the information and knowledge achievement process, during the entire prenatal care period, which must be seen as an activity that can make the man establish affective bonds with the child who will be born, preparing him for fatherhood<sup>(7,9)</sup>.

## CONCLUSION

Looking at the objectives of an immunization program shows that the main goal is to eradicate illnesses. Many fatal and stigmatizing diseases could be eradicated or eliminated through the tireless work to develop vaccines and administer them through vaccination programs, reducing mortality and favoring improved quality of life for children, adolescents, adults and elderly people.

Nowadays, a large number of vaccines is present in the routine of immunization programs, increasingly incorporating high technologies to produce them and reducing adverse post-vaccinal events. Although they are becoming safer and more effective, a vaccine with no risk is a myth, as there will always be risks and benefits. The use of immunobiological agents arouses many ethical questions and the best approach to face this question is not to impose them but to educate people, so that they can make options that consciously affect their health. When looking at the question in this way, the importance of vaccination for health promotion can be observed, but it should be made available in the context of health care.

According to the authors analyzed in this study, pregnancy is a critical period in life that represents an opportunity for women to develop greater emotional integration, but which can also lead to a dangerous destructuring. Pregnant women, experiencing situations that provoke intense and prolonged anxiety, like what is experienced through the vaccination against rubella during pregnancy, can become more vulnerable to complications because their organic and mental defenses are affected.

For the sake of effective care and support by health professionals, they should perceive the multiple meanings of this special pregnancy for the woman, which strengthens the ambivalence and regressive attitudes provoked by fear, despair, concern, lack of information, in short, because she has to cope with a reality that is different from what she idealized.

Through the women's discourse, presented in this study, we could unveil the experience they lived, showing, through the social representations, the wide range of meanings of the vaccine against rubella when it is applied during pregnancy, represented as a threat to their own integrity, that of their child and their conjugal relationship. These meanings are an important source of information that favors reflections in health professionals and managers about their role as health promotion agents.

The object of health is the production of care, based on which cure can be achieved, as well as the promotion of men's and women's health, individually and collectively. In this perspective, we cannot ignore the meaning of our preventive recommendations for the subjects' way of life. Therefore, it is a great task for health managers and professionals to develop means in order to produce not only procedures, but also care.

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