Social representation of young adults about COVID-19 vaccination

https://doi.org/10.56238/sevened2023.006-095

Ana Clara Rodrigues Barbosa
Graduated in Nursing from the Ibituruna Faculty of Health and Humanities - FASI. -Specialist in Pediatrics - Resident in Obstetrics – UFMG

Marilza Alves de Souza
Nurse -HC-UFMG- -Dr. -Social Psychology -UK- Buenos Aires/Argentina

Otávio Leone Machado Teixeira Dias
Graduated in Nursing from the Ibituruna Faculty of Health and Humanities - FASI. -Specialist in Pediatrics - Resident in Obstetrics – UFMG

Jucimere Fagundes Durães Rocha
Professor of the undergraduate Nursing course at the Ibituruna Faculty of Health and Humanities – FASI

Cintya dos Santos Franco
Graduated in Nursing - UERG - Resident in Obstetrics – UFMG

Merilaine Isabel dos Santos
Nurse -HC-UFMG - specialist in Family Health - Microregional Health Management.

Natália Cristina de Andrade Dias
Obstetric Nurse - HC-UFMG - Dermatological Nursing specialist in nursing.

Lícia Caroline Bastos
Nurse HC-UFMG - Women's Health Specialist

Priscila Oliveira Martins
Obstetric Nurse - HC-UFMG - specialist in Obstetrics

ABSTRACT
Objective: to analyze the relationship of prediction and social representations of young adults about vaccination against Covid-19. Materials and Methods: this is an exploratory and descriptive field research, with a qualitative approach, based on the Theory of Social Representations. The present study was carried out in Montes Claros and Curral de Dentro, where data were collected through a semi-structured questionnaire, with the aim of evaluating the social representation of the Covid-19 vaccine. Data were tabulated and organized in the Satistical Package for the Social Science Program and analyzed using the Ensemble de Programs Permettant l'Analyse des Evocations software. Results: the relationship of the social representation of adults about vaccination against Covid-19 showed the formation of two large groups, namely, the first group: immunization-immunity, health, protection-prevention, science and SUS; and the second group: hope, freedom, healing and lifesaving. Conclusion: it is concluded that there are relationships between social representations and prediction for vaccination against Covid-19. The analysis of individual and collective experiences revealed that the intention to vaccinate is not only related to the prior knowledge that the population has about the vaccine, but also to the feeling that this brings to society.

Keywords: Covid-19, Pandemic, Vaccination, Adult.

1 INTRODUCTION

The pandemic of the new coronavirus, SARS-COV-2, had its epicenter in Hubei province of the People's Republic of China. On 30 January 2020, the WHO Emergency Committee declared a global health emergency based on the increase in case reporting rates in China and international locations (VELAVAN; MEYER, 2020). Between February 2020 and March 2021, 12,749,000 new cases of the disease had already been confirmed in Brazil, 4,623,775 of these cases in the Southeast

region and of these 1,123,913 in Minas Gerais (BRASIL, 2021).

Regarding the treatment, to date, there are no drugs that can prove efficacy and safety for this infection. Research is ongoing and any drugs used for therapeutic purposes must be managed according to the clinical plan through the application of an informed consent form (DIAS et al, 2020). If there are no effective treatments and few therapies to change the course of the disease, the hope of general control of the pathology depends on the availability of effective and universally distributed vaccines (HERRERA- AÑAZCO et al., 2021).

In Brazil, four vaccines are being tested for Covid-19, but as of January 18, 2021, only two are approved for emergency use, namely Corona Vac produced by Sinovac in partnership with the Butantan Institute and Covisheld, prepared by Astrazeneca / Oxford together with FIOCRUZ (LIMA et al., 2021).

Even with the growing number of effective and reliable vaccines in the world, the difficulty in vaccine acceptance has been a growing problem in the population. In the context of the pandemic, confidence in the Covid-19 vaccine is a discussion with great weight due to conspiracy theories, mistrust, and misinformation, which has hindered the adoption of measures against the infection (HERRERA- AÑAZCO et al., 2021).

From other pandemics, we can identify that inadequate knowledge about the disease is associated with negative emotions in the population, which can be aggravated by trying to prevent the spread of the disease and its potential severity (JOSE et al., 2021). According to the theory of social amplification, the exchange of various forms of information through the media or informal networks can amplify or reduce the risks that people feel when facing a crisis. Once the risk is perceived through misinformation, it will provoke negative emotional responses (ALVARENGA et al., 2020).

In view of the exposure to the risk of contagion of the new virus and also the inability to take care of other health adversities that may thus be aggravated, situations of structural vulnerability may be amplified in the context of the pandemic. Therefore, it is important to act on the forms of articulation between scientific knowledge related to the prevention of transmission in the most vulnerable and high-risk patients with continuity in the promotion of their quality of life (SOUZA et al., 2020).

SARS-CoV-2 has been overtaking the health care system, due to the speed of its spread and also the lack of a forecast of health levels. Therefore, in view of the WHO's protocols and guidelines, it is necessary to try and limit the spread of the disease through good hygiene and social distancing practices, including orders to shelter in place, quarantine exposed people, and strict isolation of infected patients. All this has caused the closure of large segments of the economy and a sudden rise in unemployment, causing negative results and a recession never seen before (PERRONE et al., 2020).

The anti-vaccine movement and vaccine indecision has caused delays in the use of these vaccines and induced attitudes that put at risk not only the individual health of the unvaccinated, but

everyone around them. Regarding the immunizer, the use of social networks is frequent to generate controversies and myths about the vaccine, as these platforms are used by more than half of the world's population, causing unnecessary suffering and increasing public spending by generating false comments and publications. Misinformation, myths, lack of knowledge and information from past pandemics around the world, lack of reliability in the companies that generate these vaccines and/or in the health agencies, religious ideologies, the causes of this procedure can be pointed out (MIZUTA et al., 2018). The loss of confidence in vaccines and immunization programs can lead to the delimitation of vaccination coverage with all its consequences. The constant doubts about the lack of vaccines, the fear of adverse events and political deception, the spread of misinformation from social media platforms and newspapers, as well as philosophical and religious beliefs, have employed 6 situations in which families and even health professionals express doubts about the need and efficacy of the vaccines produced to combat the virus (SUCCI et al., 2017).

In this sense, the objective of the present study is related to understanding the social representation of young adults about vaccination against covid-19.

2 MATERIALS AND METHODS

It is characterized as a field research, with a quantitative approach, based on the Theory of Social Representations of Sergi Moscovici (1961), by the structural approach of Jean Claude Abric (1976).

The present study was carried out in the Macro-region of Norte de Minas, which was composed of 89 municipalities, with about 1,722,156 inhabitants registered (IBGE, 2021), with a focus on Montes Claros and Curral de Dentro.

The study population was composed of adults, who were between eighteen and fifty-two years old, which in the last census recorded in 2010, corresponds to about 361,915 people in Montes Claros and 6,913 inhabitants in this condition in Curral de Dentro (SIDRA, 2021).

It is important to highlight that the sample was intentional, non-probabilistic, composed of a total of 748 young adults. This sample is not intended to be representative, since it was intentionally composed according to criteria defined by the objectives, theoretical and methodological framework of RRT and research interests directed to the specific population. The inclusion criteria for participation in this sample were adults aged between eighteen and fifty-two years and who had signed the Free and Informed Consent Form (ICF), while the exclusion criteria were adults between eighteen and fifty-two years of age who did not have the cognitive conditions to answer the questionnaire or who did not have the means of internet connection and compatible device.

For data collection, a semi-structured questionnaire was applied from August to September 2021.The word recall test on the inducing term contained 5 open questions and 34 closed questions,

totaling 39 questions. The Procedure and Presentation of the research data collection took place online, and was forwarded to the research participants. In Google document format, by link, made available through social networks and e-mail.

The data regarding the sociodemographic and occupational profile were analyzed by descriptive statistical analysis with the aid of the *Microsoft software*, Office Excel 2019.

The data came from the technique of free association of words or evocation of words under induction with the term .550 words, 129 of which were different and an average evocation of 2.90.

They were studied by structural analysis exposed by means of the frame of four houses built with the subsidy of the *software Ensemble de Programmes Permettant l'Analyse des Evocations* (EVOC)® version 2005.

The analysis of the discourses generated from the open questions about the justifications for the choice of the main evocation was analyzed using the content analysis technique proposed by Bardin (2011).

As this research involved data collection with human beings, the ethical precepts of Resolution 466/2012 of the National Health Council, which regulates research involving human beings, were respected. Thus, the Research Project was submitted to the Research Ethics Committee (CEP) of Faculdades Unidas do Norte de Minas - FUNORTE and was approved by means of Substantiated Opinion nº. 4.907.649/2021 and Certificate of Presentation for Ethical Appraisal 48621221.5.0000.5141.

3 RESULTS

Table 1 shows the characteristics of the 110 young adults analyzed according to the following variables: gender, age, family income, education, city of residence, and professional occupation. It can be observed that the majority correspond to the female sex, being 84 (76.4%), aged between 18 and 50 years (44.11%), with regard to family income of 1 to 2 and minimum wages of 45 (40.9%), with emphasis on schooling with the highest number of students being in higher education, with 38 (34.5%) living in Montes Claros, with the majority residing in Montes Claros, 86 (78.2%), Regarding the professional occupation, the majority of them are students (37.95 (34.5%).

Table 1 - Profile of the young adults analyzed, according to the variables of gender, age group, family income, education, city where they live and professional occupation. Montes Claros (MG), 2021.

	Variables	N	%
	Male	26	23,6
Gender	Female	84	76,4
	Total	**110**	**100**
	18 to 20 years old	9	8
Age	20 to 30 years	59	54
	30 to 40 years	21	19
	40 to 52 years old	21	19
	Total	**110**	**100**
Household income	< than 1 minimum wage	13	11,8
	1 to 2 minimum wages	45	40,9
	2 to 4 minimum wages	28	25,5
	4 to 6 minimum wages	12	10,9
	Greater than 6 minimum wages	12	10,9
	Total	**110**	**100**
	Illiterate	0	0
	Incomplete elementary school	1	1
Schooling	Complete elementary school	1	1
	Incomplete high school	1	1
	Completed high school	21	19
	Incomplete tertiary education	38	34,5
	Completed higher education	16	14,5
	Graduate	32	29
	Total	**110**	**100**
	Montes Claros	86	78,2
City where you live	Curral de Dentro	24	21,8
	Total	**110**	**100**
Occupation	From home	6	5,5
	Student	38	34,5

Table 1 - Profile of the young adults analyzed, according to the variables of gender, age group, family income, education, city where they live and professional occupation. Montes Claros (MG), 2021.

	Variables	N	%
Occupation	Salaried employee	51	46,4
	Self-Employed	15	13,6
	Farmworker	0	0
	Pensioner	0	0
	Retired	0	0
	Total	**110**	**100**

Source: Survey data.

Through the method of word evocation, it is possible to have access to social representation about vaccination against Covid-19, in order to evaluate the structure of the 110 people interviewed in the cities of Montes Claros and Curral de Dentro.

Thus, the analysis of the most relevant evocations was carried out using the *EVOC*® software, which are presented in the graph of four cases in Figure 01, which shows the relationship between the evoked words, their frequency and the mean order of awakening (OME).

Figure 01 - Table of four boxes: frequency classification and average order of position generated by *the Rangfrq of the* EVOC® software On the Social Representations of Young Adults on Covid 19 Vaccination. From the cities of Curral de Dentro and Montes Claros (MG), 2021.

Elements of the Central Core			**Elements of the 1st periphery**		
Frequency > = 8/ Rang < 2.5			**Frequency > = 8/ Rang >= 2.5**		
	Freq	**Rang**	**Freq**		**Rang**
Protection-prevention	41	2,098	Lifesavers	45	2,978
Immunization-immunity	38	2,316	Health	39	2,923
Hope	36	2,167			
Contrast Elements			**Elements of the 2nd periphery**		
Frequency < or = 7 / Rang < 2.5			**Frequency < or = 7/ Rang >= 2.5**		
	Freq	**Rang**		**Freq**	**Rang**
Heals freedom	12	1,917	SUS	20	2,850
	12	2,417	Science	18	2,944

In the upper left quadrant, of the four-house frame, the central elements of the representation were defined where the evocations were composed: **Immunization, Hope and Protection-Prevention.**

The upper right quadrant being formed by two evocations: **Lifesaver and Health.** The words **Science and SUS** make up the second lower right quadrant. And in the lower left quadrant, qualified as elements of contrast, are the evocations: **Healing and Freedom.**

The word **immunization-immunity** are the first words of the central peripheral nucleus evoked 38 times showing a rang of 2.316. The evocation brings an idea of concern to the population in seeking immunization measures to control and end the virus, as a way of protecting against the disease.

> This is the main purpose of the vaccine (P66) Because I will be free of the disease (P69)

The word **Hope** is the second evocation of the central nucleus, evoked 41 times, showing a rang of 2.167. The evocation brings a concept to the research participants, that there is confidence in something that will solve the pandemic.

> In months we are waiting for something that will give us hope of being at least partially free from the risk of contaminated by a disease that has been killing millions. (P1) The vaccine gives us hope for better days by preventing disease. (P35)
> Hope that a cure may be found. (P23).

The word **Protection-Prevention** is the third evocation of the central nucleus, evoked 41 times, showing a rang of 2.098. Evocation has the sense of a set of actions, which, when done in advance, avoids damage.

> The vaccine gives us hope for better days by preventing the disease. (P35) Prevention is a means of caring for the population and providing physical support. (P95)
> It is the most important form of action of vaccines to ensure the control of the pandemic. (P37)

The first element of the first periphery is the word **Lifesaver** evoked 45 times showing a rang of 2,978. The participants of the research understand the subject as a means that will save their lives, as a form of relief.

> The vaccine saves lives. (P47) Protection with immunization is essential for the maintenance of life in times of pandemic. (P75)

The second element of the first periphery is the word **Health,** evoked 39 times, showing a rang of 2.923. The evocation brings an idea of physical well-being and absence of any disease.

> Health because it is the most important thing we seek during life, with this pandemic we have given it even more value Her. (P99)
>
> The control of the pandemic through vaccination favors stability in public health. (P21)

The word **science** is the first evocation of the 2nd periphery, evoked 18 times, evidencing a rang of 2.944. The evocations bring this term with the sense of a source of knowledge and research, where one has a deep knowledge about the subject bringing a solution.

> Because through science we will be able to beat the pandemic. (P2). (...) Science drives hope for better days. (P54).
> Science has allowed us to develop safe vaccines (...). (P72).

The word **SUS** is the second evocation of the 2nd periphery, evoked 20 times, showing a rang of 2,850. It can be understood as the Unified Health System, which guarantees access to health for the entire population, at no additional cost, in all spheres of care.

> (...) guarantee the population access to health, especially the vaccine (...). (P52).

The first element of contrast is the word **healing**, evoked 12 times, evidencing a rang of 1.917. The term can be defined as a response to restore health and end any suffering.

> (...) we have discovered the cure and treatment for diseases (...). (P41).

The second element of contrast is the expression **freedom**, evoked 12 times, showing a rang of 2.417. The term expresses the participant's will to have their freedom and be free from any disease.

Freedom to walk everywhere without worrying about the high contamination of the virus, to be able to visit loved ones

loved ones and family members (...). (P13). (...) one thinks of freedom to come and go (...). (P34). The freedom to come and go (...). (P90).

4 DISCUSSION

The relationship of the social representation of adults on vaccination against Covid-19 demonstrated the formation of two major groups, namely, the first group: **immunization-immunity, health, protection-prevention, science and SUS;** and the second group: **hope, freedom, cure, and lifesaver**.

The first group demonstrates semantic elements pertinent to scientific knowledge, which is currently easily disseminated through the media to the majority of the population. This aspect is of great importance, because it is from it that it is possible for society to have a more effective participation in decision-making, such as in the choice to get vaccinated or not.

From this, we can infer that formal scientific knowledge is produced in academia, but its influence and application affect the lives of all humanity. A society that is well aware of discoveries, scientific facts and new technologies, as well as the limitations, benefits and risks associated with technological and scientific activities, is better able to act consciously on its own reality. Institutions that produce scientific knowledge must maintain constant communication with the public to show what is being produced, the importance of research and how it affects people's lives, so that the community can appropriate this knowledge, use it for the public good and support the maintenance of a scientific structure in the country (VINHAS ; DE PAULA, 2021).

In this sense, social communication is the main strategy of the Brazilian vaccination campaign, which to date, is essential to increase access to evidence-based information, especially information about the benefits of vaccination. In addition to dissemination in traditional and electronic media, these strategies also include the active search for people who have not been vaccinated (DOMINGUES, 2019). Thus, it is possible to understand the factors that interfere with access to vaccination services that help in the planning of measures to advance vaccination coverage. (DUARTE, 2019).

The second group demonstrates elements related to emotion and feelings, which are not necessarily results of vaccination, but which bring the population a sense of security, relief and resolution of the pandemic. This perspective brings good acceptance to the Covid-19 vaccination campaign by the population, thus favoring mass immunization and the control of cases of the disease.

Although the level of approval and knowledge about vaccination is adequate, studies show that several factors have the potential to affect the use of immunization services, representing barriers to up-to-date vaccination. Among these factors are social determinants, which includes a subjective question, which can be understood as the feelings that the population has when receiving the vaccine (ABABU *et al*, 2017).

The feelings that are found in the vaccination, such as: feeling of relief, satisfaction, happiness and accomplishment, are classified as positive for adherence and vaccination intention (MARQUES *et al*, 2019). When immunization reaches its goal, it generates a sense of security and epidemiological control that, in fact, were only achieved thanks to trust in the immunizer (COUTO *et al*, 2021).

As the study was carried out in a specific scenario and with a specific population, one of the important limitations was that the pandemic scenario did not allow data collection in person, as there were open questions, these could be better clarified to the participants and thus have generated more complete data for the understanding and interpretation of the symbols against the vaccine.

However, to date, there is little information about the barriers and circumstances that facilitate adherence to Covid-19 vaccination in the Brazilian population. Thus, it is expected to contribute to interventions through health education, as well as continuing education, through the approximation with cultural and biopsychosocial aspects of the population. In addition, the results may be important information for health professionals, especially those who practice immunization.

5 CONCLUSION

It is believed that the use of RRT for the analysis of studies related to public health policy problems can effectively contribute to the understanding of planning practices for actions related to the vaccine. Considering that the purpose of this type of research is to affirm public health as an interdisciplinary field, the principles of cognition and social thinking of the subject are defined based on social representations, proving the need for new professionals to apply the knowledge of RRT (MOSCOVICI, 2015).

Through this study, it was possible to aim that the studied population has a previous knowledge that was socially constructed, which is close to scientific knowledge and that is interconnected with the purpose of vaccination against Covid-19, such as: prevention, protection and immunity.

In this regard, it is also notorious the existence of an understanding that is not scientific, but that is linked to daily experiences, due to the obstacles and modifications generated by the pandemic. Therefore, vaccination is also seen as something that will change the current panorama, bringing quality of life and social freedom.

In view of the importance of the subject in the scope of public and collective health, it is possible to emphasize the need to carry out other studies that, like this one, seek to understand the vaccine representation for other diseases. Well, it turned out that such a The approach is non-existent in terms of assessing the population's understanding of immunization against Covid-19.

In view of the findings, it is important that these resources be used in the planning of actions for vaccination, and the affective aspects can be used in vaccination campaigns, health education and vaccination adherence planning to reach a larger audience.

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