

Considerations on COVID-19 impact on the individual-society relationship: from vaccine hesitancy to the clamor for a vaccine

Considerações sobre o impacto da covid-19 na relação indivíduo-sociedade: da hesitação vacinal ao clamor por uma vacina

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Abstract

Since March 2020, when the World Health Organization (WHO) declared that COVID-19 was a pandemic at global level, we are facing an unprecedented health crisis over the past 100 years. While the search for a vaccine represents the hope to overcome the pandemic, measures were established to control the disease transmission through individual and collective actions of hygiene and physical distancing. Based on the popular clamor for new vaccines, this critical essay discusses the paradox and contradictions of the individual-society relationship in the context of COVID-19 considering vaccine hesitancy as a historical and social phenomenon. We also argue that decisions on (not) vaccinating or (not) following COVID-19 control and preventive measures are influenced by social belonging and traversed by inequalities that tend to exacerbate. COVID-19 surrounding infodemic and vaccine hesitancy reflect the tension between scientifically-validated and self-perceived risk, besides being impacted by the crisis of confidence in science. Perceiving risk and adhering to precautionary measures extrapolate subjectivity and rationality, and mirror values and creed shaped by the political, economic, and sociocultural dimensions.

Keywords: Coronavirus Infections; Vaccines; Social Behavior; Prevention and Mitigation.

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Resumo

Desde março de 2020, quando a Organização Mundial de Saúde declarou que o mundo vivia uma pandemia de covid-19, acompanhamos um quadro sanitário sem precedentes nos últimos 100 anos. As medidas atuais contra a doença têm como objetivo o controle da transmissão e envolvem ações individuais e coletivas de higiene e distanciamento físico, enquanto a busca por uma vacina se apresenta como a esperança para vencer a pandemia. Considerando o contexto social de clamor por uma nova vacina, este ensaio crítico discute o paradoxo e as contradições da relação indivíduo-sociedade no contexto da covid-19 à luz da hesitação vacinal como fenômeno histórico e socialmente situado. Este ensaio aponta que as tomadas de decisão sobre (não) vacinar ou sobre (não) seguir as medidas preventivas e de controle da propagação da covid-19 são conformadas por pertencimentos sociais e atravessadas por desigualdades que tendem a se exacerbar. A infodemia que cerca a covid-19 e a hesitação vacinal refletem a tensão entre o risco cientificamente validado e o risco percebido subjetivamente, também influenciada pela crise de confiança na ciência. Percepções de risco e adesão a medidas de saúde extrapolam aspectos subjetivos e racionais e espelham valores e crenças conformados pelas dimensões política, econômica e sociocultural.

Palavras-chave: Infecções por Coronavírus; Vacinas; Comportamento Social; Prevenção e Mitigação.

Introduction

On March 11, 2020, less than three months after the first case of an influenza-like syndrome evolving to a severe acute respiratory syndrome was recorded in Wuhan, China, the World Health Organization (WHO) declared that COVID-19 was a pandemic at global level, caused by the new coronavirus (SARS-CoV-2). Advanced age and comorbidities such as hypertension, diabetes, cardiovascular diseases, chronic respiratory diseases, and cancers are risk factors for a worse prognosis of the disease (Li et al., 2020). Coronavirus fatality rate varies according to each country prevention and control policies, testing scope, and healthcare services capacity, besides being influenced by the epidemiological and clinical knowledge accumulated (El-Aziz; Stockanda, 2020). Considering that, fatality rate tends to increase in low-income countries without access to intensive care units (Zhou et al., 2020).

Ever since the first case, the world has faced an unprecedented health crisis over the past 100 years. Less than five months after the WHO declared COVID-19 a global pandemic, 15 million confirmed cases and 640,000 deaths were recorded (Opas, 2020). The booming demand for high complexity and technological care ensued from the pandemic revealed the fragility of healthcare systems worldwide and the consequential collapse of many of them - even in rich countries with well-structured public health systems, such as the British National Health Service (Horton, 2020). The control measures implemented to flat the epidemic curve (Garcia; Duarte, 2020), so far achieving positive outcomes, include wide-range testings, respiratory hygiene, the use of masks, social isolation of those who tested positive, quarantine to those exposed to the disease, and physical distancing, avoiding agglomerations. However, as Sars-CoV-2 can be fast transmitted, and even before symptom onset, many countries adopted physical distancing measures to prevent coronavirus spread. This means to say that, by the beginning of May 2020, about a third of the world's population was subject to long-term mobility restrictions (Wilder-Smith; Freedman,

2020). Although physical distancing has been internationally called “social distancing”, we opted by using the first term to reinforce that such measure does not imply discontinuing sociability, but rather in maintaining people physically distant to contain disease spread.

COVID-19 crisis will undoubtedly have long-term consequences for societies throughout the globe. Today, hundreds of countries instituted physical distancing, closing business, schools, and industries, which incur a severe economic recession (Gostin; Wiley, 2020). The search for a vaccine or treatment for COVID-19 is the hope of overcoming the pandemic. However, scientists warn that vaccine development follows strict safety requirements and, even in record time, might take from one to one year and a half (Saif, 2020).

The popular clamor for vaccine mobilized the WHO, governments, scientists, pharmaceutical industries, and non-governmental institutions, leading over 40 countries to engage in a fundraising campaign for developing and producing a vaccine that is made available as a global public good (Hosangadi et al., 2020). On July 24, 2020, the WHO released a report indicating 166 vaccine candidates worldwide. Of these, 25 were in clinical evaluation, four of which in phase III, and 141 in preclinical evaluation (WHO, 2020). Scientific and technological advances such as the rapid genome sequencing of the new coronavirus, accumulated innovations in vaccine manufacturing, and knowledge advancements in the virus and immune response reinforce the possibility of developing a vaccine shortly (Prompetchara; Ketloy; Palaga, 2020).

Also important, but perhaps little debated in the current scenario, is the COVID-19 mid- and long-term influences pre-existing health conditions. As a result of health professionals overburden, health systems overload, individuals’ fear of social contact, and physical distancing measures, responses to other health problems and healthcare access may become more precarious. Health actions such as prenatal care, childcare, and vaccination may be harmed by favoring emergency and intensive care (Rasmussen et al., 2020). Health systems shocks and all social and economic repercussions of the pandemic may

weaken immunization programs. Such possibility had been worrying governments and international health agencies during the last decade due to the vaccine hesitancy phenomenon (WHO, 2014).

In the lack of vaccine or specific treatment, the best health actions include early diagnosis, follow-up, treatment of complications in severe patients, and infection control involving individual and social measures (El-Aziz; Stockanda, 2020). The effectiveness of isolation (for infected and symptomatic) and physical distancing measures (Wilder-Smith; Freedman, 2020) will depend on the health sector actions, but also on social policies to guarantee income and employment, maintenance of production activities and essential services, and information policy scientifically validated and duly disseminated. Added to these actions and their result, measures effectiveness will require people awareness and a genuine engagement in changes that rebound within private and social life. From hygiene habits to physical distancing measures, COVID-19 echoes in the way of relating to other people, working (home office), coexisting with family, consuming, and even entertaining.

Physical distancing summons a large contingent of people to prevent health system collapse and protect social groups more vulnerable to infection and complications due to Sars-CoV-2. However, this measure may evoke strangeness and refusal, especially in sociohistorical contexts where individual freedom and autonomy are important values that sustain the way of being in the contemporary world (Ehrenberg; Botbol, 2004).

This critical essay discusses some paradoxes and contradictions of the individual-society relationship in the context of COVID-19 considering vaccine hesitancy and the clamor for a vaccine.

Vaccination in pre-pandemic Brazil and the phenomenon of vaccine hesitancy

The complexity of the individual-society relationship is not a novelty to epidemiologists, historians, and social scientists focused on vaccination and its hesitancy. Since the 1960s,

with mass vaccination campaigns against smallpox, Brazil has experienced the rise of the so-called “immunization culture” (Hochman, 2011), especially after the implementation of the National Immunization Program (PNI), in 1975. Ever since, PNI is responsible for describing and coordinating immunization actions in the country, standardizing the supply of immunobiological in a universal and free manner throughout the national territory. Due to its success, a unified immunization schedule gained widespread support and, consequently, vaccination coverage rates gradually increased (Silva Júnior, 2013). However, the population-vaccine relationship was not always peaceful, including contestation and resistance reflected, for example, in anti-vaccine movements worldwide (Poland; Jacobson, 2001).

According to the World Health Organization (WHO), vaccine hesitancy is the delay or refusal in administering the recommended vaccines despite their availability (WHO, 2014). Hesitancy comprises a broad spectrum of postures with various gradations, from fear to total refusal. For concerning a collective ideal, hesitancy is a complex social phenomenon manifested by a group of people who question dimensions such as individual freedom (Sobo, 2016).

The current vaccine hesitancy flourished in Europe in 1998, with Wakefield’s fraudulent article about a possible association between the measles vaccine and autism (Godlee; Smith; Marcovitch, 2011), and reaching, at first, high-income countries. Although the authorities confirmed the article was a fraud and scientific evidence legitimized vaccines safety and efficacy, such event evinced groups opposed to vaccination, perpetuating their expressions through the internet and social media at an unique speed and with a global reach (Arif et al., 2018). Another determinant for questioning vaccines stems from the very success of immunization programs: controlling vaccine-preventable diseases fosters a sense of safety, of eradication, or that vaccines side effects pose a higher risk than those of the disease (Zorzetto, 2018). Together, these processes increased concern, uncertainty, and insecurity regarding vaccines globally up from the 2010s,

eroding public confidence in vaccination (Siddiqui; Salmon; Omer, 2013).

The Brazilian vaccination coverage has presented a downward trend since 2016, resulting in the recrudescence of hitherto controlled communicable diseases. In 2016, for example, measles was declared eradicated in the country (Zorzetto, 2018); however, in 2018, the WHO recorded the highest incidence of global measles cases since 2006. The number was even higher in 2019: by September, over 400,000 cases were reported (Ducombe; Gignoux, 2020). In 2018, vaccination coverage for most immunobiologicals in Latin America was below that recommended by the WHO (Opas, 2019). Regarding the Brazilian scenario, six vaccines coverage decreased from 18 to 21 percentage points in 2017 compared to 2015 data (Zorzetto, 2018). In broad COVID-19 crisis, Brazil recorded 2,369 confirmed cases and four deaths from measles during the first 15 weeks of 2020 (Brasil, 2020).

Although several factors contribute to vaccination coverage decline in Brazil, we may stress: the complexity of expanding the PNI national immunization schedule; some specific vaccine shortages; changes in the PNI information system; access barriers arising from restrictions in vaccination rooms time and place (which do not assist the population outside working hours and extramurally); the Brazilian National Health System underfunding; and vaccines hesitancy (Opas, 2018; Silveira et al., 2020).

Not only does vaccination has a coverage goal, but it also should ensure heterogeneity based on socioeconomic status. National research shows that census tracts with indicators of high socioeconomic status have significantly lower vaccination coverage than those with low socioeconomic status, and that children vaccinated exclusively in the public health system were more likely to have complete immunization schedule at 18 months of age than those vaccinated in private services (Barata et al., 2012; Moraes; Ribeiro, 2008). Conversely, vaccination coverage was lower among lower classes in Salvador/BA (Barata; Pereira, 2013). A cohort study comparing vaccination coverage among individuals born in 1982 and 2015 in the

city of Pelotas found that the highest vaccination coverage of children in 1982 belonged to wealthier families, whereas in 2015 it belonged to poorer families (Silveira et al., 2020).

Families of upper-income and high education level that refuse, select, or postpone their children vaccination justified their choices by: considering the disease is mild or eradicated; fearing vaccine reactions and believing vaccines are not safe; criticizing vaccines composition, efficacy, and mechanism of action; believing vaccine administration starts at an early age, with a high number of vaccines and doses; considering their socioeconomic status and good lifestyle as protective factors against vaccine-preventable diseases; and beholding medical-pharmaceutical complex financial interests (Barbieri; Couto, 2015; Mills et al., 2005). The option of (not) vaccinating is also part of a multiple and broad sociocultural context. Couples of upper-income and high education level reported parental care concepts arising from the same symbolic order (protection, responsibility and duty) regardless of vaccinating or not their children - both believe they are caring for and protecting their children (Barbieri; Couto, 2015).

These findings corroborate the theory of paradigm shift between accessibility and acceptability, reflecting the complexity of the individual-society relationship and showing that inequality prevails wherever lower classes have difficulty in accessing medical supplies and health services. In regions that guaranteed access, upper-class and more educated individuals showed higher acceptability toward immunization (Waldman, 2013).

Resistance, crisis of confidence, and (dis)information in the individual-society relationship: how vaccines hesitancy relates to the COVID-19 pandemic

Prevention strategies fuel the conflict between the individual and the collective. While norms, regulations, and recommendations are formulated

by health agencies or institutions (WHO, Ministry of Health, medical societies, etc.) and oriented towards collectivities, the decision of following them are individual and predominantly based on personal preferences, shaped by and shared in their surroundings.

Both vaccination and the COVID-19 pandemic bring to light the individual × collective conflict. Regarding vaccination, the so-called “collective” or “herd immunity” is achieved by mass vaccination, reaching high coverage. Besides protecting the vaccinated person, this immunity eliminates the infectious agent circulation in the environment and indirectly protects susceptible individuals (those with contraindications, such as premature infants, pregnant women, or people with the compromised immune system, as well as those unvaccinated). From the public health perspective, immunization actions are grounded on this logic (Plotkin et al., 2017). Vaccines hesitancy reveals that, although the decision to (not) vaccinate oneself or their children occurs in the individual and private sphere (Barbieri; Couto, 2015; Mills et al., 2005), it incurs social belonging issues of groups for or against vaccination (Sobo, 2016).

Considering the lack of vaccines and an effective treatment (as aforementioned), COVID-19 coping strategies also rely on traditional public health measures involving behavioral changes and hygiene habits, with different degrees of governmental intervention in the circulation of people - from physical distancing recommendations to lockdown (El-Aziz; Stockanda, 2020). Opposing to such measures is related to the way we experience the COVID-19 pandemic as socially-situated subjects. According to Buntin (2020), the memories left after experiencing this crisis, shared by millions of people worldwide, will be shaped by our social environment. In turn, this social environment will shape the disease management and care within our communities, from a narrow (such as family) to a broader perspective (such as states).

The COVID-19 pandemic explains the ‘prevention paradox’. According to Rose (1992), the prevention paradox depicts the conflict between collective (which require significant social changes) and

individual interests (which often consider that the required changes are not highly significant). The author hypothesizes that preventive actions such as those commended by the WHO and adopted in different ways by governments (Hamilton; Safford, 2020) may be deemed safe and are accepted based on their reasonable and presupposed benefit. However, guaranteeing their beneficial effects does not entail an unconditional engagement of individuals and social groups. These preventive measures, only supposedly simple (from the individual perspective), become extremely complex so that reaching social consensus and desirability turns into a laborious task.

The COVID-19 pandemic has shown us that individual freedom is not absolute against the basic needs of the collectivities (Gostin; Wiley, 2020). Considering the coronavirus scenario, perhaps the greatest parallel between community immunization against vaccine-preventable communicable diseases and the compulsory distancing adopted by several countries is that the success of both depends directly on the population sustained adoption. Moreover, mass vaccination and distancing measures are victims of their own success - by achieving their goal, they foster a sense of safety and epidemiological control, attained only due to the aforementioned collective actions.

Hurried readings of public opinion evoke selfishness and a lack of empathy to establish a relationship between vaccination refusal and denial (as a historically situated trend) and the discredit of isolation and physical distancing measures during the pandemic. We problematize such relationship by assuming that selfishness (particular interest) and lack of empathy (ability to understand others) are less of an issue than denying the common good as a corporate logic and the concrete decision-making possibilities. In other words, intersections of ethos (individualism and solidarity) and social conditionings, shaped by social belongings, are set on each of the individual-society relationship poles.

Considering contemporary societies complexity, differentiation, and inequality, those who bet on self-managing the risk of contracting the virus and the ability to face the

disease, choosing to ignore sanitary measures of physical distancing and voluntary isolation, are miles apart from those who ignore or fail to comply with recommendations due to a lack of information on contraction and/or death risk, as well as on their role as co-responsible in facing this epidemic crisis. The individualist group manages its experience based on definitions such as freedom and autonomy, and from rational informed decisions about risk (Czeresnia, 2004), hampering public agents from achieving its engagement in collective interest efforts. Meanwhile, huge population contingents, especially from social groups historically forsaken by the state and more vulnerable based on intersections of social markers of race/color, class, and gender must choose between surviving through economic consequences of the crisis and facing the risk of contracting, getting sick, and die as a result of the new coronavirus (Nassif-Pires et al., 2020). We cannot ponder over the disease and, consequently, sick people, without directly relating it to social markers (class, gender, race, generation, sexuality) and how they intersect with concrete life experiences, signifying people's conditions existence (Couto et al., 2019).

Given that the epidemic crisis is accompanied by (and worsens) economic crises and inequalities on a global scale (Santos, 2020), the State plays a key role not only in coordinating actions to cope with the epidemics and mitigate its social consequences at national level, but also in driving individuals' behavior, promoting social cohesion (Hamilton; Safford, 2020). A recent study investigated how the discourses and actions of the current Brazilian President, Jair Bolsonaro, affect citizens' behavior during the epidemic. Its findings indicate the deleterious effects of his actions and discourses, which publicly and emphatically ditch the risks related to the new coronavirus and disclaim physical distancing measures, showing that such measures are less supported in pro-government countries than in places with lower population support (Ajzenman; Cavalcanti; Da Mata, 2020). Throughout history, we may point several examples of governments weakness and their leaders' inability to face

epidemics - recognizing that, for that to happen, life preservation and social protection must be inextricable - that illustrate the perverse consequences to societies and to citizens who avoid facing health risks (Jones, 2020).

One of the relevant features of the pandemic we are now facing is that social representations and public opinion regarding it change rapidly. Thus, the (mis)trust in science (so important in structuring decision-making and risk perception, both individually and collectively) is an essential factor affecting vaccination and the COVID-19 pandemic, besides sparking the discussion on the individual-society relationship. As for vaccine hesitancy, part of the crisis of public confidence in vaccines transcends the vaccinology field, concerning sociocultural changes that embody a broader crisis of confidence in science, healthcare institutions and communities, pharmaceutical industrial complex, public policies, and in the corporations-governments relationship to manufacture and purchase vaccines (Arif et al., 2018; Siddiqui; Salmon; Omer, 2013). Radical anti-vaccination organizations support a conspiratorial perspective and, although their social media groups count on fewer followers than pro-vaccine groups, their organization is growing rapidly. Researchers at the Vaccine Confidence Project, coordinated by the London School of Hygiene & Tropical Medicine, state that these groups tend to overpower online discussion on vaccination, which is worrisome to public health. A Brazilian study on websites that convey the greatest amount of information contrary to vaccines revealed that the “attack” shifted from vaccine to COVID-19. In contrast, the conspiracy theory shifted from pharmaceutical industries profit to the “Chinese virus,” supposedly created to place China on top of the world. Conspiracy theories advance alongside the advances in clinical research on vaccines against Sars-CoV-2. For example, anti-vax groups formulated a theory that the vaccine developed with financial support from the Bill & Melinda Gates Foundation would be a maneuver to monitor people through a microchip (Ball; Maxmen, 2020; Cardoso, 2020; Larson, 2020).

(Dis)information has gained prominence in the context of COVID-19, leading the WHO,

media outlets, and academic and governmental institutions to launch communication platforms to detect and prevent fake news spread (a contemporary phenomenon that influences decision-making), behaviors, and changes in risk perception (Zarocostas, 2020). “Infodemic” is a term associated with the rapid dissemination of all kinds of information related to a problem, hampering its solution. Although COVID-19 did not bring the concept, and neither is it restricted to health, the current infodemic is unprecedented (Vaezi; Javanmard, 2020) considering the public interest in pandemic-related news and the spread of misinformation related to its prevention, treatment, and efficacy of a future vaccine. Studies approaching vaccine hesitancy indicate that the risk of vaccine-preventable disease may be distorted or subjectively resignified, such as overestimating the frequency or severity of vaccine side effects or underestimating disease complications that the vaccine aims to prevent (Siddiqui; Salmon; Omer, 2013). Such scenario fuels tension between scientifically-validated and self-perceived risk, which also occurs for the COVID-19 pandemic. However, gender, socioeconomic status, and religiosity intersections must also be regarded in this equation. Ahmed et al. (2020) point out that disinformation disproportionately affects individuals with less access to information channels, more likely to ignore health agencies and governments notices regarding preventive measures.

Despite fake news and science denialism (which are also expressed in other spheres, such as flat-Earth and climate denialism), COVID-19 seems to reinstall science as the main way to combat the new coronavirus pandemic, besides praising health professionals as the primary agents of such combat. The current overvaluation of science and medicine shows the moving and complex nature of the transition from vaccine hesitancy to the clamor for a vaccine against Sars-CoV-2. The hope cherished by public opinion, the media, institutions and governments in returning to a normal life through vaccination by times underestimates the required testing time (preclinical and clinical trials, with phases 1, 2, and 3) before making a new vaccine available to the population. These stages are necessary

to ensure vaccines immunogenicity, efficacy, and safety in both the scientific and regulatory spheres (Poland, 2020).

We may observe the dynamics involving vaccination and COVID-19 in the high demand for influenza vaccine in Brazil during the 2020 campaign, whereby the Ministry of Health reached the goal of older people immunization (90%) in the first phase, unlike previous years. However, vaccination coverage reached levels below 40% for priority groups with the indication for immunization in the second phase of the campaign, such as people with comorbidities (Cerilo, 2020; Peduzzi, 2020). Physical distancing, fear, the pandemics repercussions, and the influenza vaccination campaign may have impacted aforementioned groups, incurring different coverage ranges.

Final remarks: what do we learn from the pandemic?

If we are all susceptible to the new coronavirus (Sars-CoV-2), subjectively recognizing such susceptibility, vulnerability to illness, possibilities of coping with it, and the death resulting from the epidemics enormously differentiate us. Thus, this essay sought to foment the debate on individual-society relationship - the sociology founding theme and vitally important for public health. From vaccine hesitancy and its sociohistorical lability, we discuss the impact of the new coronavirus on various social life dimensions in face of a potential rescue of optimism due to vaccination, the clamor for a vaccine, and the difficulties in adhering to physical distancing measures.

Self-centred decisions on (not) vaccinating or (not) following COVID-19 control and preventive measures are influenced by social belonging and traversed by social inequalities that reflect risk perception, susceptibility to illness, and access to health services, besides possibly perpetuating social and health inequities.

Individual responsibility and the consequent blaming of individuals, resulting from reductionist preventive strategies that disregard the current

scenario complexities, may reinforce stereotypes and prejudices by neglecting the intersection between social markers such as gender, race/color, class, and generation that shape health-related “choice” and “care.” At the social level, the epidemic response and its success challenges institutions, governments, and organizations actions and commitments to formulate public policies, ensure socioeconomic security, and assist the most vulnerable groups. Besides that, effective policies and actions implemented by the government should consider the best available evidence.

Biomedical rationality and classic public health actions are anchored in science and, especially, in the ongoing epidemic, assessing the mathematical and probabilistic validation of risks and trends. The health-disease-care process is yet more complex and requires other disciplinary contributions for understanding the impact of the epidemic on individuals’ and populations’ experience. Deeming the scientific field as a cultural production (re) produced by agents and institutions contextualized in time and space (Bourdieu, 2004), its legitimacy may be (over)valued or discredited at various degrees by individuals and social groups. COVID-19 unfolding crisis revealed the rescue of individuals’ belief in science and medicine, on the one hand. On the other, resistance to preventive measures, scientific denialism, and physical distancing indexes below expected in some cities and within some social segments contrast with the cherished hope in the vaccine against COVID-1 - the precept for life to return to “normal.”

The clamor for the vaccine against Sars-CoV-2 arise from the immediacy of feelings of fear and uncertainty but is unlikely to cease the vaccine hesitancy phenomenon (Harrison; Wu, 2020). What is at stake is value judgment on vaccines benefits, the COVID-19 coping measures, as well as the recognition that public health actions are grounded on the tension between autonomy and norms implemented by institutions, agencies, and the State. Likewise, risk perceptions, choices, and adoption of preventive measures go beyond the individual dimension, reflecting values and beliefs shaped by the intersection among the political, economic, and sociocultural dimensions.

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Authors' contribution

All authors conceived and outlined the study, analyzed the data, wrote the article, and approved the final version.

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