Consequences of The Pandemic on the Reaffirmation of "Fragile Masculinity": Biological and Social Vulnerability

Consequências da Pandemia na Reafirmação da "Masculinidade Frágil": Vulnerabilidade Biológica e Social

Consecuencias de la Pandemia en la Reafirmación de la "Masculinidad Frágil": Vulnerabilidad Biológica y Social

RESUMO
Objetivo: investigar aspectos biológicos e sociais, relacionando-os aos índices de óbitos no sexo masculino. **Metodologia:** Trata-se de um estudo exploratório-descritivo. **Resultados:** 2.536 óbitos notificados por 174 municípios e divulgados pela Secretaria Estadual de Saúde do Maranhão. A letalidade no estado é de 2,5%, mulheres apresentam 1,7% e nos homens 3,4%, principalmente naqueles com idade entre 60 a 80 anos. **Conclusão:** Observou-se que a construção das masculinidades e as questões de gênero impactam os indicadores e mostram a complexidade do cuidado à saúde com equidade, evidenciando a necessidade de pensar a saúde do homem em seu contexto social e incluí-los nas ações de promoção e prevenção de saúde.
PALAVRAS-CHAVE: COVID-19; Masculinidades; Vulnerabilidade

ABSTRACT
Objective: to investigate biological and social aspects, relating them to death rates among males. **Methodology:** This is an exploratory-descriptive study. **Results:** 2,536 deaths were reported by 174 municipalities and released by the Maranhão State Health Department. The lethality rate in the state is 2.5%, with women accounting for 1.7% and men for 3.4%, mainly among those aged 60 to 80 years. **Conclusion:** It was observed that the construction of masculinities and gender issues impact the indicators and show the complexity of health care with equity, highlighting the need to think about men's health in their social context and include them in health promotion and prevention actions.
KEYWORDS: COVID-19; Masculinities; Vulnerability.

RESUMEN
Objetivo: Investigar aspectos biológicos y sociales, relacionándolos con los índices de muertes en el sexo masculino. **Metodología:** Se trata de un estudio exploratorio-descriptivo. **Resultados:** 2.536 muertes notificadas por 174 municipios y divulgadas por la Secretaría Estatal de Salud de Maranhão. La letalidad en el estado es del 2,5%, siendo 1,7% en las mujeres y 3,4% en los hombres, principalmente en aquellos con edades entre 60 y 80 años. **Conclusión:** Se observó que la construcción de las masculinidades y las cuestiones de género impactan los indicadores y muestran la complejidad del cuidado de la salud con equidad, evidenciando la necesidad de pensar la salud del hombre en su contexto social e incluirlos en las acciones de promoción y prevención de la salud.
PALABRAS CLAVE: COVID-19; Masculinidades; Vulnerabilidad.

RECEIVED: 01/10/2025 **APPROVED:** 01/20/2025

How to cite this article: Santos KF, Pessoa DLR, Rodrigues KP, Sena FL, Silva RS, Cardoso TO. Consequences Of The Pandemic On The Reaffirmation Of "Fragile Masculinity": Biological And Social Vulnerability. Saúde Coletiva (Edição Brasileira) [Internet]. 2025 [acesso ano mês dia];15(93):14324-14331. Disponível em: DOI: 10.36489/saudecoletiva.2025v15i93p14324-14331

DOI: 10.36489/saudecoletiva.2025v15i93p14324-14331
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INTRODUCTION

In the Chinese city of Wuhan, at the end of 2019, a new virus called SARS-CoV-2 was discovered. The currently proposed transmission mechanism occurs through droplets from symptomatic or non-symptomatic people. According to the Clinical Management Protocol for Coronavirus (Covid-19) [1] in Primary Health Care (2020), the disease is characterized by its high transmissibility and by manifesting itself as a Severe Acute Respiratory Syndrome (SARS) with variable lethality, a priori, according to the age of the affected individual, ranging from 0.2% to 0.4% in young people and adults and from 3.6% to 14.8% in the elderly.

It was found that in addition to age group, two other variables are noted as important for measuring the lethality of the virus, namely, people with comorbidities (Systemic Arterial Hypertension, Diabetes Mellitus, heart disease and lung disease) and apparently the simple fact of being male. Those who fit into this group had a worse prognosis and consequently a higher lethality rate of the virus. [2,3]

In the Epidemiological Bulletin released by the State Health Department of the State of Maranhão (2020) [4] men accounted for 45% of those infected with COVID-19, but when the number of deaths was assessed, men accounted for 62%. The analysis of why the disease progressed more to death in male health service users and/or those with comorbidities due to a new lethal infection in the Brazilian context must be combined with the awareness of the need to re-signify biological and social indicators, as well as understanding the extent to which certain individuals are already in a situation of vulnerability and difficult insertion into health care. [5]

Much of the problematization is due to aspects related to the construction of masculinity and its contextual bias [6], something that would be related to the scientific category "gender" and not to "sex" itself. [7]

One of the gender concepts considered for the debate is that of Judith Butler, who states that "Gender is the repeated stylization of the body, a set of repeated acts within a highly rigid regulatory structure, which crystallizes over time to produce the appearance of a substance, of a natural class of being.". [7] Thus, the archetype of a pure, unique, acceptable type of man that demeans all other manifestations has a direct impact on the scenario under discussion and the recognition of the character of this variable, "being a man", is directly related to the greater disregard for health care [8] and should be highlighted in the present text.

The experience of a very atypical context – the WHO declared on March 11th that nations should prepare to deal with a "Pandemic" – served to shed light on the social vulnerability of male individuals, according to Mendes [9], that is, to treat such a situation not as an isolated case, but as complex characteristics with multiple origins, be they social, cultural, economic or political.

Therefore, permeating the consideration and criticism of the official data that indicate vulnerability, we will first present (a) the biological aspect: commonly considered immune to social issues, generally having a more objective, pure, "natural" character. Next, what we call (b) the social aspect – pre-designated here as a behavioral aspect, commonly categorized as "self-care", equipped with conditions that are beyond the control of both the biological sphere and the individual's singular sphere, aspects reinterpreted as "unnatural" and, depending on the theoretical current, considered objective or subjective.

METHOD

This is an exploratory-descriptive study carried out in the state of Maranhão. In this study, information regarding male and female deaths tested positive for COVID-19 in the state published in the form of epidemiological bulletins between March 27 and July 14, 2020 by the Maranhão State Health Department (SES-MA) was analyzed, totaling 2,536 deaths in users aged between 2 months and 112 years. This research is understood as having a bibliographic collection character, privileging the existing discussion regarding "health, vulnerability and masculinity".

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Information was collected regarding the municipality of residence, age, sex, comorbidities, date of death and date of release of the test result, totaling notifications from 174 municipalities in the state. In order to analyze the specific comorbidities, they were categorized into Systemic Arterial Hypertension (SAH), Diabetes Mellitus (DM), Oncological, Renal and Neurological Conditions, Heart Diseases and Other risk factors (obesity, endocrine, rheumatic and autoimmune disorders, Acquired Immunodeficiency Syndrome, lung diseases, smoking, alcoholism, urological and digestive disorders and psychiatric disorders).

Lethality was calculated using the formula:

$$\text{Fatality rate} = \frac{\textit{Number of deaths from COVID}}{\textit{Number of confirmed cases}} \times 100$$

The consolidated data were grouped into spreadsheets in the Microsoft Excel 2019 program and tabulated in Stata® for descriptive analysis of the variables age, sex and comorbidities, determining the frequencies.

RESULTS

On March 27, Maranhão had no deaths, but there were already 348 suspected cases and 14 confirmed cases in São Luís and 39 suspected cases in Imperatriz. In addition to the demographic factor, the two largest populations in Maranhão, the cities mentioned above, have airports and, for this reason, there was a greater movement of people between several other cities in the country and abroad – a factor that determined the transmissibility up until the moment in which a situation of community transmission was declared. The highest number of deaths among men is found in the large centers of São Luís (47.33%) and Imperatriz (10.43%).

Table 1 – Health Regions of residence of men who died from COVID-19. Maranhão, 2020.

Variables	*n*	%
Health regions		
São Luís	745	47.36
Açailândia	*58*	3.69
Bacabal	*44*	2.80
Caxias	*44*	2.80
Barra do Corda	*25*	1.59
Balsas	*10*	0.64
Chapadinha	68	4.32
Codó	34	2.16
Imperatriz	164	10.43
Itapecuru Mirim	34	2.16
Pedreiras	64	4.07
Pinheiro	51	3.24
Presidente Dutra	11	0.70
Rosário	32	2.03
Santa Inês	78	4.96
Viana	26	1.65
Timon	26	1.65
São João dos Patos	13	0.83
Zé Doca	46	2.92
Total	2.536	100

Source: Maranhão State Health Department, COVID-19 Epidemiological Bulletin

A total of 2,536 positive deaths for COVID-19 were analyzed, totaling 1,573 males, with a lethality of 3.4% and 963 female notifications with a lethality of 1.7%. Most deaths were of elderly people (78.15%) aged between 60 and over 70 years old, with a lethality for the age group between 60 and 70 years old of 6.9% and for those over 70 of 18.5%. When analyzing color/race, 44.24% of the patients who died were declared as brown and 31.98% of the notifications did not include information regarding color/race. When calculating the lethality rate, individuals classified as black color/race have the highest lethality (4.6%), followed by brown (3.3%) and white (2.8%).

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Table 2 - Sociodemographic characteristics of cases that resulted in deaths from COVID-19. Maranhão, 2020.

Variable	*n*	%	*Letality (%)*
Gender			
Female	963	37.97	*1.7*
Male	*1.573*	62.03	*3.4*
Age			
0 to 9 years	*15*	0.59	*0.8*
10 to 19 years	*13*	0.51	*0.2*
20 to 29 years	*25*	0.99	*0.2*
30 to 39 years	85	3.35	*0.4*
40 to 49 years	148	5.84	*0.9*
50 to 59 years	268	10.57	*2.3*
60 to 70 years	609	24.01	*6.9*
Over 70 years	1.373	54.14	*18.5*
Color/Race			
Yellow	194	7.65	*1.3*
White	245	9.66	*2.8*
Indigenous	9	0.35	*2.4*
Brown	1.122	44.24	*3.3*
Black	154	6.07	*4.6*
Ignored	811	31.98	*2.0*
Comorbidities			
Present	2.166	85.41	*2.13*
Absent	370	14.59	*0.4*
Total	2.536	100	

Source: Maranhão State Health Department, COVID-19 Epidemiological Bulletin

Table 3 – Age group, color/race, comorbidities, and health region of deaths in men due to COVID-19. Maranhão, 2020.

Variable	*n*	%
Age grouped among men		
<21	13	0.83
21-39	*65*	4.13
40-59	*267*	16.97
60-80	*879*	55.88
≥81	*349*	22.19
Color/Race		
Yellow	116	4.57
White	155	6.11
Indigenous	5	0.20
Brown	682	26.89
Black	108	4.26
Ignored	507	19.99

Table 3 shows the distribution of deaths in men according to age group, where 55.88% were between 60 and 80 years old. Regarding color/race, the predominant color/race was brown (26.89%), followed by deaths in which color/race was ignored (19.99%). The analysis of the presence of comorbidity shows Systemic Arterial Hypertension as the most prevalent (36.20%), followed by Diabetes Mellitus (23.32%) and Other risk factors (11.68%).

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Comorbidities		
Present	1.310	83.28
Absent	263	16.72
Total	1.573	100

Source: Maranhão State Health Department, COVID-19 Epidemiological Bulletin

Table 4 shows the distribution of deaths in men according to the presence of comorbidities, where Systemic Arterial Hypertension is the most prevalent (36.20%), followed by Diabetes Mellitus (23.32%) and Other risk factors (11.68%).

Table 4 – Number of comorbidities in men who died from COVID-19. Maranhão, 2021.

Variables	*n*	%
Number of reported comorbidities		
Arterial Hypertension	871	36.20
Diabetes Mellitus	*561*	23.32
Heart Diseases	*179*	7.44
Neurological	*95*	3.95
Kidney Diseases	*92*	3.82
Oncological	*64*	2.66
Other Risk Factors	281	11.68
No Comorbidities	263	10.93
Total	2.406	100

Source: Maranhão State Health Department, COVID-19 Epidemiological Bulletin

DISCUSSION

When analyzing the differences in the progression of a disease until death, it is important to outline the research by choosing the variables to be considered, avoiding the randomness of non-systematized information. Regarding the sex/gender aspect, we have a broad field of analysis that goes beyond the biological sphere and the complexity of the cultural aspects present in social relations.

Sex and Gender are categories that designate analytical worlds that are also differentiated. If at first they were thought of as synonyms, given the dominance of the biological view of behavior, the advancement of research in the socio-anthropological field or even in the health field has provided new perspectives for analysis. [6]

Margaret Mead (1901-1978) was one of the pioneers in what would become the anthropological debate on gender, even before the existence of the formalized category. In the research that resulted in the book "Sex and Temperament" (1935), the anthropologist analyzed societies in which the behavior/temperament of individuals seemed to have another pattern of differentiation, which differed from the unique and biologically recognized Western pattern. The characteristics that were accepted as typical and natural for women and men in American society did not match the patterns present in the societies studied. [10] Mead's criticism pointed to the need to analyze how we interpret the temperament of individuals based on sex, pure and ideal, when the evidence is clear for the need to analyze the social whole when interpreting it. [10]

The rescue of this classic analysis of social sciences aims to "put on hold" the exposed data. Even if they are presented as solid, objective, categories based on biological/anatomical/phenotypic definitions such as color/race [7], is a set of social practices established from a "highly rigid" "regulatory structure" [7] that we can read the different roles experienced by the population investigated. Such recognition essentially contributes to understanding the greater lethality of men in relation to women in this context of Pandemic. Which only aggravates the fact that, even considering the topic with due scope, the vulnerability of the male sex/gender is highlighted and reaffirmed.

It is not uncommon for the analysis of vulnerability to diseases to be based on an anatomical, genetic perspective, i.e., a biological perspective as a determinant. In fact, in the biological context, some factors explain the greater number of deaths among men when compared to deaths among women in the State of Maranhão due to COVID-19, such as the hormone estrogen as an immune activator that positively regulates pro-inflammatory cytokines (TNFα), when compared to testosterone that suppresses the immune system or the proposed model that reports the X chromosome and X-linked genes where approximately 1500 genes are involved in the immune system. [11,12]

When evaluating the clinical results

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of COVID-19, differences in responses were observed between the sexes when comparing infection and mortality data. Differences between the sexes affect immune responses and the evolution of COVID-19, treating the data to respond to higher mortality among the male population, resulting in higher plasma levels of innate immune cytokines, such as Interleukins (8 and 18). [13]

In the biological context, evidence corroborates the results found, explaining the difference between the immune systems of men and women and the protective action of the estrogen hormone. Therefore, it can be inferred that, beyond the behavioral analysis, the simple fact of being a woman makes a person less vulnerable. The male sex is fragile. [13] In the pandemic context, he has much more to worry about, many more losses to account for.

However, when discussing topics involving health and biological sex, it is important to understand how the definitions of 'masculine' and 'feminine' have a significant impact that conditions health practices. Therefore, biological factors should not be analyzed in isolation, as the differences between men and women are dependent on external influences and cultural issues. [14]

Before highlighting the fragile nature of man beyond the biological aspect, it is necessary to add an addendum about the need that such a critical social analysis brings with it an analysis of science per se. The very reason for the existence (ontological reason) of science prescribes its non-absolute nature, among other reasons because it comes from a being that, despite having a scientific vocation, is indissolubly social, that is, not neutral. [15]

Many decisive factors are explained by the hegemonic macho culture. Practices with such links tend to contribute to complications and progression to death in male individuals. The creation of a behavior based on the illusory type of indestructible man, which postpones the search for care until the acute stages of the disease are reached [16], substantially decreasing the chance of controlling symptoms and the disease as a whole, adds content to the current debate.

Faced with this social construction, the idealization of the male figure occurs, attributing to men characteristics of superiority that underestimate prevention and health care, as it relates these issues to fragility. [17] The tables show twice as many deaths among men compared to deaths among women due to COVID-19 in Maranhão, which can be seen as a reflection of the lack of male access to care in the Unified Health System.

The demand for Primary Health Care (PHC) at the onset of symptoms is low and the gateway to the health network is through outpatient or hospital care. The demand for services generally occurs when men are unable to manage their condition at home, delaying and making treatment more difficult, resulting in increased morbidity and mortality and increased gender disparities. [9] It is understood that, as tautological as it may seem, man's vulnerability tends to be greater precisely because he considers himself less vulnerable to diseases. The idea of strength, power, dominance, virility tends to construct a man who does not exist in the biological sphere and who becomes hostile in the social sphere. [6]

Regarding self-care in men's health, there is a tendency to prioritize the centered and curative medical model to the detriment of the practice of preventive actions and health promotion in the medium and long term. The interference of masculinity based on concepts of virility and strength weakens and weakens the user, directly affecting the health-disease process. [18] These aspects are part of the social construction of "man" and these characteristics are decisive for the increase in risk factors in cases of SARS-CoV-2 infection. [19]

The analysis that points to male fragility presents the catalysis of numbers based on cross-sectional observations such as age group, race, and comorbidities. Such numbers only corroborate the emphasis on a more perishable masculinity in terms of risk. It was observed that among male patients, the majority of deaths occurred in the age group of 60 to 80 years (55.88%), based on the analysis of the Brazilian epidemiological panel, which indicated 58.3% of deaths in the male population of the total deaths from COVID-19 in Brazil. [20]

According to a comparative analysis of the risk of death from SARS-CoV-2 infection between China and Italy, there is a greater risk for Italians compared to Chinese due to specific characteristics of the population that make men vulnerable, such as hypertension (31.5%), cardiovascular diseases (27.7%) and Diabetes Mellitus (25.1%). [21]

The study shows that among deaths with comorbidity, 36.20% had arterial hypertension. Even though it is not proven whether uncontrolled blood pressure is a risk factor for acquiring COVID-19, blood pressure control remains an important consideration to reduce the burden of the disease, even if it has no effect on susceptibility to SARS-CoV-2 viral infection 22, therefore, special attention should be given to cardiovascular protection during treatment for COVID-19. [22]

Diabetes mellitus was also shown to be important when analyzing deaths, being present in 23.32% of individuals. To date, there are no studies demonstrating an independent predictive value of diabetes in mortality in patients with COVID-19, but there is much speculation about the association between diabetes and susceptibility to new coronaviruses, as well as its impact on the progression and prognosis of COVID-19. [23]

Comparisons with international studies corroborate the preliminary identification of the effect of the main chronic diseases on cases of deaths from COVID-19 in the male population. It is expected that soon, with the development of research and the solidification

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of the numbers, much will be revealed about how the behavior of men who live with chronic diseases – which require self-care – and underestimate treatment place them in a highly susceptible social category. Self-care in health is shrouded in patriarchal stigmas. [21]

> "The male population presents a profile of postponing the search for health care due to their social and work relationships."

Based on the "work" parameter, health care is seen as necessary (generally) only for serious illnesses, when they make it impossible to perform daily activities, seeking care for manifestations considered "mild" in informal and popular systems such as faith healers and traditional healers. [24] In other words, other factors such as the need to leave home and to take the lead in the search for supplies can be considered as possible variables for analysis. And in this case, men also leave behind, that is, they also show themselves to be defenseless. [24]

In a society where the primacy of public affairs is given to men, the primacy of exposing their weakness is also given to them. It is important to point out that even the discourse that states that men are the ones who "go out to bring money home" would need to be analyzed with more objective data than this patriarchal legacy of a male provider, which in many contexts no longer makes sense, is not tangible at least when it comes to the economy of a household.

CONCLUSION

The present study presents as a limitation what can also be seen as the reason for its scope, namely the preliminary nature of the Pandemic data. The limitation is due to the constant desire of science for measurement, and what we have at hand is still little, incipient compared to what is needed for a thorough analysis. The scope is precisely due to the fact that we use the incipience to alert to a trend already seen and preliminarily endorsed in the first numbers of Pandemic 2020: masculinity is destructive. In addition to the destruction of others, such as femininity, masculinity is self-destructive.

The need to consider gender and its interfaces, the imperative of considering the complex nature of an apparently simple genetic vulnerability, makes the warning in this article urgently worth considering. Instead of biological vulnerability conditioning, directing, and shedding light on social vulnerability, what is understood as relatable points to social vulnerability constructed from a typical macho and virile masculinity directing, indicating, and aggravating all other conditioning factors.

What we would define as sexist behavior worsens men's biological condition susceptible to diseases. Sexist behavior worsens the socio-spatial vulnerability that is noticeable in the numbers. Sexist behavior exaggerates the vulnerability present in the separation of roles with regard to the public essence of men's service. It presents this in contrast to the domestic condition of the "woman's place". A condition prescribed by a typical patriarchal ideal constructed and endorsed personally and institutionally even today. It is pointed out that men's vulnerability has as an independent variable, a variable that causes changes in other variables, precisely the fact that men do not consider themselves vulnerable. Men's weakness would be thinking that they are strong.

Contributions to the scope of Men's Health were observed in this study when discussing aspects of the construction of masculinity and the impact on morbidity and mortality due to COVID-19 and on Public Health, when presenting the analysis of the distribution of deaths in the state.

The theme of masculinity considered in relation to the pandemic caused by SARS-CoV-2 discussed throughout this research showed the complexity of healthcare. During the health-disease process, gender issues impact general indicators in a way that is veiled at first glance, but deeply perceptible and capable of great interference.

Thinking about men's health in its social and cultural context, considering the lack of gender equity and parity as catalysts for problems. From there, we understand the need to urgently seek the inclusion of vulnerable health users, thinking about promotion and prevention actions specifically for this segment. We are aware that the lack of participation, invisibility and the absence of preventive actions point to the fragility of men's health in times of pandemic.

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DOI: 10.36489/saudecoletiva.2025v15i93p14324-14331
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