10.21544/2359-3075.v28n2.g

The Armed Forces in the fight against COVID-19 in Brazil: pandemics as a theme of the Defense and Security Agendas

Marcelo Vogler de Moraes[1]
Diego de Almeida Paim[2]
José Roberto Pinho de Andrade Lima[3]

ABSTRACT

Fighting the COVID-19 pandemic in Brazil required actions from the Federal Government, through its Ministries and Local Authorities. The Armed Forces were called upon by the Ministry of Defense to act in Operation COVID-19, which began in March 2020. In total, 10 (ten) Joint Commands were created for the integrated use of the means of logistics, intelligence, and communications, in support to public health and safety agencies. In addition to these Joint Commands, the Aerospace Command, which is permanent, provided support to the other commands. The present work aimed to study the performance of the Armed Forces in confronting the COVID-19 pandemic, addressing issues related to interoperability, integration between civilians and military personnel, and impacts on the operation of the Armed Forces. The questionnaire was applied to Joint Commands members, both military and civilian. The study found that the Brazilian Armed Forces have a great capacity for mobilization, as evidenced by the numbers and diversity of the activities performed. The interoperability and relational capability of the military provided agility and integration in actions. However, suggestions and opportunities for improvement to increase the readiness of the Armed Forces and the State itself in similar situations were pointed out.
Keywords: Mobilization Capacity; Interagency Operation; COVID-19 pandemic; Civil-military relations.

[1] Agência Nacional de Vigilância Sanitária (ANVISA), São Paulo — SP, Brasil. E-mail: marcelo.moraes@anvisa.gov.br — ORCID https://orcid.org/0000-0001-7496-6084.

[2] Escola Superior de Defesa (ESD), Brasília —DF, Brasil. E-mail: diegoapaim@gmail.com — ORCID https://orcid.org/0000-0002-0879-1412.

[3] Escola Superior de Defesa (ESD), Brasília — DF, Brasil. E-mail: jose_roberto70@hotmail.com — ORCID http://orcid.org/0000-0001-8232-2166.

INTRODUCTION

The health emergence of COVID-19 (CoronaVirus Disease-2019) caused by the coronavirus SARS-Cov-2 (Severe Acute Respiratory Syndrome-Coronavirus-2) in China at the end of 2019, have imposed changes in the way of life of human beings and have impacted the global economy, causing losses of all kinds. On March 11, 2020, the World Health Organization (WHO) classified COVID-19 as a pandemic and not just a public health crisis, recommending that countries adopt a broader approach to address it, encompassing governments and society as a whole, to build a comprehensive strategy to prevent contamination, save lives and minimize its impact (WORLD HEALTH ORGANIZATION, 2021).

In Brazil, on February 3, 2020, the Ministry of Health declared a Public Health Emergency of National Importance (Emergência em Saúde Pública de Importância Nacional – ESPIN), a situation recommended by Decree No. 7616, of November 17, 2011 (BRASIL, 2011). On February 26, 2020, the first case of COVID-19 was confirmed in Brazil, in São Paulo (BRASIL, 2020a). The fight against the pandemic has become a national priority, demanding actions from several Ministries (Health, Citizenship, Economy and Defense) to minimize the harmful effects of a disease which had been known so far. Also in February, the Federal Government established the Executive Interministerial Group on Public Health Emergency of National and International Importance (Grupo Executivo Interministerial de Emergência em Saúde Pública de Importância Nacional e Internacional – GEI-ESPII) and, in March, the Crisis Committee for Supervision and Monitoring of the Impacts of COVID-19. The latter consisted of a group of authorities and experts to articulate government action and advise the President of the Republic on situational awareness on issues arising from the COVID-19 pandemic, consisting of representatives from various public bodies of the direct and indirect administration of the Federal Government, among them, the Ministry of Defense (MD) (BRASIL, 2020b; BRAZIL, 2020c).

In this context, the MD, through Ministerial Directive No. 6, of March 18, 2020, initiated the so-called Operation COVID-19, creating 10 (ten) Joint Commands (Comandos Conjuntos – CCj) for the integrated use of means of logistics, intelligence, and communications, in support of public health and safety agencies (BRASIL, 2020d). In addition to these CCj, the Aerospace Command, which is permanently operational, provided support to the other commands. Thus, the Joint Operations

Center (COC), activated by the MD, started to coordinate the actions of the Armed Forces in operational tasks such as border access control; the use of means of chemical, biological, radiological, and nuclear defense (CBRN), for material decontamination; the connection with the competent bodies for health actions; and support for screening people with suspected infection for subsequent referral to hospitals, among other actions (BRASIL, 2020d; BRASIL, 2020e).

When revisiting recent history, we observe the emergence in the last two centuries of various epidemics and pandemics that caused great damage to people and countries, such as the Spanish Flu, Influenza or Ebola (FROES, 2020). The emergence of this type of event comes in a cyclical way; therefore, identifying the actions and understanding the role of the Ministry of Defense and the Armed Forces in combating COVID-19 is relevant, since new pandemics of same or larger dimensions may appear in the coming decades. This work aimed to study the role of the Armed Forces in confronting the COVID-19 pandemic, by mapping the initiatives and actions taken during this crisis. Issues intrinsic to the object studied were also covered, such as the relationship between pandemics and Defense, the integration between the three Armed Forces in the coordination of joint operations and the integration between civilians and military in the context of Operation COVID-19.

METHODOLOGY

This study is of a qualitative-descriptive and applied nature, which comprises of bibliographical and documental research, as well as the application of questionnaires to key participants.

A theoretical review of the subject was carried out to search for scientific articles published in 2020 and 2021 in Google Scholar, PubMed, LILACS and SCIELO databases, as well as in other Defense research bases and sources. The search for references in the respective databases was carried out as follows: Google Scholar ["COVID-19" (title) and "national defense" (title), "COVID-19" (title) and "national security" (title)] , PubMed ["COVID-19" (title) and "national defense" (text word), "COVID-19" (title) and "national security" (text word)], LILACS ["COVID-19" (words) and "national defense" (words), "COVID-19" (words) and "national security" (words)] and SCIELO ["COVID-19" (abstract) and "national defense" (abstract), "COVID-19 " (abstract) and "national security" (abstract)]. The selection of research sources was based

on publications by authors of recognized importance in the academic world and articles published in journals indexed by the Coordination for the Improvement of Higher Education Personnel (Coordenação de Aperfeiçoamento de Pessoal de Nível Superior – CAPES) with a high impact factor.

Data on actions taken by the Ministry of Defense and the Armed Forces were collected and made available on the Operation COVID-19 website. The questionnaires applied to key military and civilian participants, who played a leading role in tackling COVID-19, consisted of closed and open questions. When accessing the questionnaire, information about the investigation to be carried out, its risks and benefits were detailed in the electronic form, so that their manifestation of willingness to participate (or not) was effectively free and conscious. For closed questions, the Likert scale was used to collect the perception of the actors involved about the performance of the Ministry of Defense (LIKERT, 1932). As for the open questions, content analysis was performed using a word cloud, as Vasconcellos-Silva and Araujo-Jorge (2019) did in virtual communities of patients with Hepatitis C.

PANDEMICS: A THREAT TO SECURITY AND DEFENSE

Pandemics and epidemics have influenced the course of wars, the offspring of all, including those of government, and the fate of peoples and nations (FROES, 2020). The effects of the crisis caused by COVID-19 proved, according to Coelho (2020), equivalent to the consequences of a whole war. In 2007, Barros *et al*. (2007) had already warned that the industrialized world should prepare for a strategic response, involving the public and private sectors, to face new pandemics. At that time, this statement referred to the possibility of an imminent pandemic being caused by the H5N1 flu virus and was based on the opinion of international experts and the WHO (WORLD HEALTH ORGANIZATION, 2007). Faced with the possibility of a new pandemic, the authors predicted a scenario very similar to the current one:

> "Se uma Pandemia de influenza surgisse hoje, as fronteiras fechariam, a economia global entraria em queda, os abastecimentos internacionais de vacinas e os sistemas de cuidados de saúde seriam sobrecarregados e o pânico reinaria." (BARROS *et al*., 2007, p. 630)[4]

[4] Translation: "If an influenza pandemic were to break out today, borders would close, the global economy would slump, international supplies of vaccines and health care systems would be overwhelmed, and panic would reign".

The authors claim that the emergence of a pandemics could impact both international and national security, reducing the operational capacity of the armed forces and undermining political stability. This phenomenon occurs even in countries that have not been directly affected by the pandemic, as it affects foreign policy and disrupts economic relations (BARROS *et al*., 2007). Barros and Andrade Lima (2020) corroborate to this understanding by concluding that threats of a biological nature, among others, are not barred by borders and that the effectiveness of the response will depend on international cooperation.

In a study by Albert *et al.* (2021), which consisted of a survey of the literature and the analysis of a case study on threats to national security in the United States of America in times of COVID-19, the authors were emphatic in stating that infectious diseases represent a high level threat to national and global security and that it was imperative that discussions on this issue and policy formulation be changed as a result of the emergence of new crises of this nature. According to their analysis, the international community underestimated the threat posed by pandemics and, as a result, nations were not able to face the danger or mitigate the scale of damage posed by COVID-19, as they found themselves, according to the term used by the author, "terribly unprepared". To illustrate the dimension of the threat posed by infectious diseases, the authors made use of a hypothetical situation with geopolitical implications involving North Korea. Failing to meet its medical, food and humanitarian needs diplomatically in the event of a catastrophic influx of COVID-19 into its territory, could North Korea resort to coercion on South Korea or some other state to have these urgent needs met? It is clear the authors depicted a fictional and speculative scenario, but still a valid one. Reflections like these cannot be ignored since they portray the importance and impact a pandemic could have on national security.

THE UNDERSTANDING OF THE GREAT NATIONS ABOUT PANDEMICS

The understanding that pandemics fall within the list of threats is shared by almost all major nations today. The term "pandemics" can be easily found in the Security and Defense documents of these countries, along with other related terms such as "health security", "health risks", and "health emergencies".

In the document "Strategic Concept for National Defense – 2013" (CEDN-2013), which defines priorities in the field of Defense and integrates Portugal's "National Defense Plan", both in line with the documents of the North Atlantic Treaty Organization (NATO), in particular the Allied Joint Medical Support Doctrine, references are made to pandemics in four passages. It is worth mentioning the passage that mentions that pandemics and other risks to health security constitute serious risks to the security of the State and its people, and it is worth prioritizing the strengthening of the national response capacity to health risks, through a better definition of the strategic planning and response framework; promoting education and training actions for emergency and risk management; the development of civil-military cooperation, and coordination between public, private and military hospitals. The document also adds that health security also encompasses the guarantee of food security and the definition of a National Sanitary-Epidemiological Strategy (COELHO, 2020; PORTUGAL, 2013; NORTH ATLANTIC TREATY ORGANIZATION, 2011).

In other European countries, such as Germany, the emergence of pandemics and epidemics and their impact on Security is addressed in the Security Policy as a challenge to be overcome. In 2016, the aforementioned document advocated the expansion of the concept of security by the United Nations (UN), especially by the Security Council of that International Organization (GERMANY, 2016).

In a recently released document (Global Britain in a competitive age), the United Kingdom recognizes the interconnected nature of its global health system and establishes as one of its objectives, the construction of resilience on British soil and abroad, strengthening its capabilities in this regard to better prepare for future pandemics and to propose a reform in the WHO with the lessons learned from COVID-19 (UNITED KINGDOM, 2021).

The 2017 French Security and Defense Strategy identified epidemics as a triggering or aggravating factor for crises and warned of the real risk of the emergence of a new virus, whether by the proliferation of one species to another, or by non-intentional leakage from a laboratory in which it was being manipulated. France recently published the Strategic Update 2021 document, recognizing that the multidimensional crisis caused by the pandemic acted as a catalyst for the main threats and trends previously identified, while at the same time degrading the response capacities of the States. In the list of lessons learned from the COVID-19 pandemic, there is the need for strengthening the Armed Forces to deal

with large-scale crises. The implementation of a strategic function of "protection-resilience" is clearly necessary (FRANCE, 2017; FRANCE, 2021).

In the United States of America, records on the involvement of the Armed Forces in disaster and emergency situations date back to the 19th century, when yellow fever was fought in 1873 and 1878. Currently, the Armed Forces support to civil authorities in situations like this nature is conducted in accordance with the National Response Framework document, which is a guide on how the nation should respond to all types of disasters and emergencies. It is based on flexible and adaptable concepts identified in the National Incident Management System to align key roles and responsibilities (UNITED STATES, 2019).

Finally, China recognizes epidemics as a threat to its interests and states in China's National Defense in the New Era. It argues that this type of event should not be overlooked, as threats posed by non-traditional security issues such as natural and large epidemics are increasing (CHINA, 2019).

The Security and Defense documents of most NATO member countries reflect the decision of their leaders taken in Warsaw at the Summit held in 2016. At that time, it was decided to increase the resilience of NATO members to the full spectrum of threats; therefore, they agreed on seven basic requirements for national resilience that reflect the essential functions of government continuity, essential services to the population, and civilian support to the military. All are connected to each other, which means that if one area is impacted, another can suffer as a result. One of these requirements is related to the ability to deal with mass casualties, ensuring that civilian health systems can handle this situation and that sufficient medical supplies are stocked and secure. NATO updated these requirements in 2020 to reflect the challenges presented by emerging communication technologies such as 5G, as well as the impact and implications of the COVID-19 pandemic. According to NATO itself, resilience is being tested with the current pandemic and NATO's main body dealing with preparedness and resilience – the Civilian Emergency Planning Committee – is now monitoring and evaluating the impact of this crisis, as well as facilitating the exchange of information and best practices among allies on an ongoing basis (NORTH ATLANTIC TREATY ORGANIZATION, 2021). Building resilience, according to McGinn (2021), is imperatively dependent on the mobilization of the Defense Industrial Base and effective and transparent collaboration between government and industry must be established in order to meet evolving security needs.

In light of the above, it is observed that pandemics have definitely come to occupy the Defense and Security agenda. The worldwide coverage and lethality of the new coronavirus confirm that the COVID-19 pandemic was not restricted to a public health issue, but a topic to be securitized. Securitization, described by Buzan and Hansen in "The Evolution of International Security Studies", emphasizes the social processes by which groups of people perceive something as a threat and offer an alternative theoretical framework to the traditional perspective of security studies. Through this concept, security threats are not only military in nature, but can also come from the political, environmental, economic and societal areas, each with its own dynamics. Securitization takes place in an almost chaotic context, with the establishment of exceptional legal measures and allocation of extra emergency resources. In this sense, the inputs used in the fight against COVID-19 (new drugs, masks, respirators, etc.) were also treated as national defense instruments and tested the ability of the countries' Industrial Defense Base to respond to a national emergency, as the challenges for public health supply chains are similar in many respects to those faced by the Defense supply chain. While innovation and research as well as development are strong in the domestic market of many developed countries, for example in the USA, the production of personal protective equipment (PPE) and many pharmaceutical products were largely transferred abroad (MCGINN, 2021). This situation contributes to the US retaining, in April 2020, a load of respirators from China destined for Brazil (O GLOBO, 2020). Although this topic is not addressed in this article, it should be addressed in future work, as it raises conflicts between the great nations.

BRAZIL: PANDEMICS IN THE CONTEXT OF NATIONAL SECURITY AND DEFENSE

In Brazil, the National Defense Policy and the National Defense Strategy are part of the same document, and the current version was published in 2012. Threats of this nature are mentioned only in an excerpt of the National Defense Strategy. The document establishes as one of the strategic actions that all instances of the State must contribute to the increase in the level of national security, with particular emphasis on important public health emergency measures, among others related (BRASIL, 2012a). This document was updated in 2016 and 2020, and sent

to the National Congress, where it awaits approval. This recent version, like the current version, refers only once to pandemics as a threat in the international context to National Defense (BRASIL, 2020f).

In the 2020-2039 Defense Scenario document, another perspective is perceived where pandemics, health emergencies and adverse events arising from risks of a biological nature are present in Implication for Security and Defense (ID) No. 24 and are treated as threats to the National Defense. This health threat can cause political, economic, and social instability, demanding support from the Armed Forces in humanitarian aid missions, including abroad, as well as in guaranteeing law and order and controlling ports, airports and borders (BRASIL, 2017).

Brazil also has the National Defense White Book (LBDN), which, according to the MD, "... is the most complete and finished document on Brazil's defense activities" (BRASIL, 2012b; BRASIL, 2020g). The LBDN consists of a comprehensive document, aimed at Brazilian society and the international community, which addresses the policies and actions that guide security procedures and the protection of national sovereignty. A new version of the LBDN was sent to the National Congress in 2020 and awaits its consideration; however, in both, the issue of pandemics is not addressed (BRASIL, 2020g). There is only a mention of pandemics as an implication for National Defense at the beginning of the document sent to the National Congress, within a set of themes, without further details on their impact on national security and defense and the means to manage this type of threat.

It is necessary to emphasize that, even though documents related to Defense in Brazil make some reference to pandemics as possible threats, the approach to the subject remains discreet compared to the aforementioned foreign documents, especially if we use France as a reference. The only document that lists pandemics more forcefully in the list of threats to be dealt with is the 2020-2039 Defense Scenario, which in turn, is not included as a reference for the preparation of the LBDN and in the version sent to the Congress of the National Policy on Defense and the National Defense Strategy.

In this context, it is also relevant to point out the delay by the National Congress in approving the Defense documents. The legal forecast calls for a review every 4 years, but the 2016 documents expired this deadline without in-depth discussion in Congress. These delays could discredit such documents, since the need for changes in their content arising from new geopolitical scenarios to be faced by the country,

may cause these documents to return to square one in the process of articulation and processing within the Legislative.

However, the intention here is not to analyze or make a value judgment on such documents and their process, but the delays in their approval, the lack of connectivity between them, at least apparent, as well as the precarious approach to pandemics as threats to Security and Defense are points that deserve to be highlighted.

OPERATION COVID-19: ARMED FORCES PERFORMANCE

THE COVID-19 OPERATION IN NUMBERS

With the emergence of the COVID-19 pandemic, the Federal Government, through the Ministry of Defense, started Operation COVID-19, which consisted of activating the Joint Commands to carry out support actions to mitigate the impacts of COVID-19, in close coordination with the competent health and Public Security bodies (BRASIL, 2020d). In parallel, the Ministry of Health published the document "National Contingency Plan for Human Infection by the new Coronavirus COVID-19", which presented a contingency plan in case of an outbreak and defined the level of response and the corresponding command structure to be configured, at each response level (BRASIL, 2020h).

Thus, the MD, through Operation COVID-19, until November 2021, had employed over 34,000 soldiers in 19,908 awareness campaigns with the population, 10,406 decontamination of public places, transported more than 30,000 tons of material (cylinders, tanks and oxygen plants), removed 914 patients to other locations in the country, distributed more than 1,500,000 food kits and mobilized its contingent for blood donation, totaling 47,514 blood collections. The MD, in partnership with the MoH and the Ministry of Justice and Public Security, through the National Indian Foundation (Fundação Nacional do Índio – FUNAI), carried out several actions in support of indigenous communities throughout Brazil, to strengthen specialized medical care and to take medicines, Covid-19 tests, vaccines, personal protective equipment (PPE), as well as other health supplies and food kits. More than 16 humanitarian missions were carried out in indigenous communities (Yanomami, Kanamarí, Macuxi, Tiryó, Xavante, Karajá, Terena, Guajajara, Caxinauás, Kayapó, Wai Wai and Ticuna), involving 401 health professionals responsible for more than

63,000 assistances and more than 200,000 doses of vaccines administered. Special emphasis should be given to the operations carried out by the Air Force, which, in that period, totaled more than 5,000 flight hours transporting people and materials (BRASIL, 2021).

In a lecture, on August 26, 2020, at the Superior War College (Campus Brasília), the Head of the Department of Personnel, Education, Health and Sports at the MD, at the time, had already highlighted the actions of the Armed Forces with the indigenous people and also presented the proposal for the construction of a Biosafety Level 4 laboratory (NB4) in Brazil, which will be able to provide: autonomy and technical-scientific independence in research with pathogens with high pandemic risk; inclusion in the group of countries with NB4 laboratories; creation of a Specialist Center in the area; economic development; strengthening of National Security; international projection; and strategic integrity for the country. Along with this initiative, the MD is also working on the proposal to strengthen the Military Laboratories (Navy Pharmaceutical Laboratory – LFM, Army Chemical-Pharmaceutical Laboratory – LQFEx, Aeronautics Chemical-Pharmaceutical Laboratory – LAQFA), aiming at the projection of the image of the Armed Forces, the complementarity and modernization between the Forces Laboratories, the production of strategic drugs for military hospitals and the entire public health system, the training and development of personnel, the development of technology in strategic and the nationalization of production technology. Within the scope of this proposal is the development and transfer of technology to Brazil by the LAQFA of Oncology drugs such as Darunavir, Dasatinib and Dolutegravir; the production of medicines in the radioactive area and for hepatitis C by LFM; and the transfer of technology and production of Insulin and Deferasirox by LQFEx, drugs used to treat a significant part of the Brazilian population (PAFIADACHE, 2020).

THE UNDERSTANDING OF THE MILITARY PERSONNEL OF CCJ ABOUT THE COVID-19 OPERATION AND THE PANDEMIC

In June and July 2021, electronic questionnaires with closed and open questions were made available to key military and civilian participants who played a leading role during the fight against COVID-19. In total, 14 questionnaires answered by military personnel and only

2 questionnaires by civilians were obtained. Due to the low number of questionnaires answered by civilians, these were disregarded since it was impossible to build a perception by the "civilians" collective that worked in the fight against the pandemic with the military.

It is noteworthy that the soldiers who answered the questionnaires held positions in the General Staff of the activated CCj, including Chief of Staff, Personnel Officer, Operations Officer, Logistics Officer, Planning Officer and Civil Affairs Officer.

Regarding the results obtained, the study found that the vast majority of the target audience of the research is fully aware that pandemics and that health emergencies constitute a threat to National Security. However, the lack of knowledge about the Defense documents, in particular the National Defense Scenario 2020-2039 document, called attention, showing that there is a greater need for the dissemination of these documents, in order to allow a greater contextualization of the scenario in which the member of the CCj is situated.

As for the perception of the military personnel in relation to the use of means of Chemical, Biological, Radiological and Nuclear Defense (CBRN) used for the decontamination of materials and installations by the Activated Joint Commands, almost all participants responded that they totally (57.1%) or partially (28.6%) agreed with the statement that this activity contributed to increase the feeling of health security on the part of the population and civil authorities, demonstrating the importance of this activity to be common sense, although its effectiveness is questionable from a technical point of view, given the low transmission by contaminated surfaces.

Most military personnel also fully (57.1%) or partially (21.4%) agreed that the population's health care actions carried out by the CCj in which they operated, including the vaccination and blood donation campaigns, contributed to mitigate the adversities caused by the pandemic, since without them, there could be a shortage of blood banks or compromise of their functioning, as well as it would not be possible for the country to reach the significant number of people vaccinated per day.

The importance of military laboratories as instruments to increase the capacity to mobilize in situations of threat to national security, such as in the case of pandemics, health emergencies or catastrophes, seems to be common sense among the military personnel who responded to the questionnaire. Only two participants were indifferent or neutral, which characterizes the perception of the strategic importance of laboratories in dealing with pandemics.

Questions regarding the relational capacity among CCj members ratified the importance of interoperability between the Armed Forces to control and fight the pandemic, and the institution of the Interministerial Group to fight COVID-19 was understood as a correct initiative, given the need to coordinate several sectors of the federal administration.

Regarding the responses obtained in the open questions of the questionnaire, the construction of a word cloud allowed us to observe the main words and terms that were registered in the responses received to the questioning about the possible lessons arising from Operation COVID-19. In Figure 1, the presence of two words (Integration and Information) represent important issues raised by respondents. Integration was identified as a factor present during Operation COVID-19 and important for the success of the activities, at the same time as the need for greater flexibility in the flow of Information through a possible standardization of systems and procedures was pointed out.

Figure 1 — Word cloud about the lessons learned in Operation COVID-19

Source: Prepared by the authors (2021).

As a possible lessons learned from the civil-military relations, Figure 2 highlights the words "Civilians", "Cooperation", "Image" and "Necessity". The military confirmed the importance of cooperation and strengthening of the credibility and image of the Armed Forces, but pointed out the lack of mutual knowledge on the roles and responsibilities of both sides. The need for greater integration and greater skills in dealing with civilians was also highlighted.

Figure 2 — Word cloud about lessons learned from the civil-military relationship

Source: Prepared by the authors (2021).

These answers partially confirmed the evidence obtained in the bibliographic research, in particular the results presented by Grohs, Biavaschi and Rodrigues (2020), on the need for coordination and cooperation, not only between the three Armed Forces, but also between them and other public institutions and civil society organizations during Operation COVID-19. In this same direction,

there were the findings from the study by Almeida (2020) on the role of the Armed Forces in subsidiary actions, joint operations and in the interagency environment during Operation Welcome. The latter finds that:

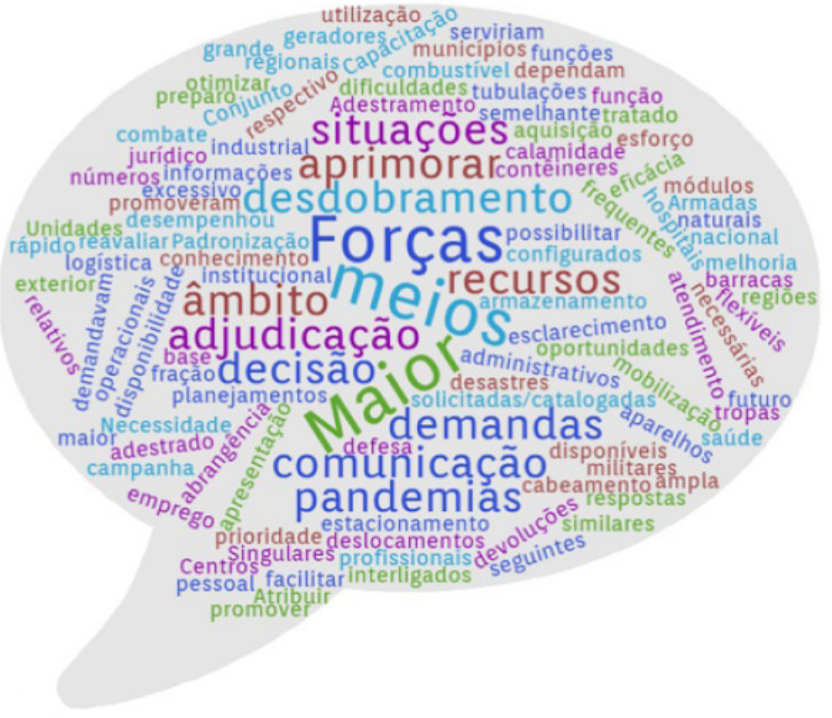
> "[...] há oportunidade de melhoria nas relações de coordenação, cooperação e compartilhamento de informações, bem como no conhecimento das atribuições que as instituições devem ter umas das outras durante as operações" (ALMEIDA, 2020).[5]

Such statements are also in line with the arguments of Franchi (2020), presented in the Editorial of the Revista da Coleção Meira Mattos, on the need for the Armed Forces to improve their ability to operate in an integrated manner with different government agencies and instances (comprehensive approach) in the light of experiences.

In relation to the opportunities for improvement regarding the performance of the Armed Forces in Operation COVID-19, the word cloud illustrated in Figure 3 points to some suggestions that deserve to be highlighted, such as the possible creation of Training and Training Centers for health professionals in all regions of the country. In addition, it was understood as positive the indication of the need for "campaign hospitals or, at least, parking modules (tents, air conditioning equipment, generators, ablution facilities, flexible water and fuel tanks, piping and cabling, among other components), designed for storage in 10- or 20-foot containers, for quick deployment." In this regard, it was highlighted that:""such means would serve both to meet the demands of pandemics, as well as the frequent situations of calamity due to natural disasters and, eventually, demands for the deployment of troops in actions in the national territory or abroa"". Furthermore, the need to improve the defense industrial base and its respective legal framework to improve mobilization and logistics was registered".

[5]Translation: "there is an opportunity to improve the coordination, cooperation and information sharing relationships, as well as in the knowledge of the attributions that the institutions must have of each other during the operations."

Figure 3 — Word cloud about improvement opportunities for the Armed Forces in Operation COVID-19



Source: Prepared by the authors (2021).

Issues related to resources were also mentioned in order to provide greater clarity in the rules for use and agility in their application. In addition, observations from the previous questions appear again in this topic as opportunities for improvement, such as the need for greater integration with other agencies, especially the municipal ones, as well as aspects related to communication and information flow between the Forces.

LESSONS LEARNED AND OPPORTUNITIES FOR IMPROVEMENT

As discussed in numerous works and mentioned above, the emergence of new pandemics occurs in a cyclical manner. Therefore, it is not a question of "whether there will be a new pandemic or not", but rather "when" and "what are its dimensions" (FROES, 2020; BARROS *et al*., 2007). Almost two years after the appearance of the first case of COVID-19 in the world and a year and a half after the start of Operation COVID-19, it is necessary to reflect on the performance of the Armed Forces in the execution of subsidiary actions and, above all, about opportunities for improvement.

DEFENSE DOCUMENTS

This study brought to light the degree of knowledge on the part of the military (Senior Officers of the Armed Forces) about the defense documents. The results suggest the need for the Armed Forces to work more assertively with these documents in the regular courses their officers undergo throughout their career, especially in the Higher Studies courses.

In addition, the threat caused by pandemics and health emergencies seems to be dealt with in a very incipient way in the main Defense documents (LBDN and PND/END). Only the document 2020-2039 Defense Scenario - Executive Summary addresses this issue clearly and properly, classifying it as an Implication for Security and Defense. It should be noted that there is no reference to the 2020-2039 Defense Scenario in the LBDN and PND/END, providing scope for speculation about the usefulness of the former in the elaboration of the latter two.

COVID-19 OPERATION AND POSSIBLE DEVELOPMENTS

The results presented by Operation COVID-19 are substantial and are consistent with the results obtained by Passos and Acácio (2021), which show that until May 2021 the Brazilian Armed Forces were the most active in the fight against COVID-19 in Latin America. The study evaluated the use of the Armed Forces and its intensity during the COVID-19 pandemic, assigning each country a score from 1 (low) to 3 (high) in each of the fields of action studied (border security; logistics; health care; defense industry;

crisis management; and policing). Brazil scored highest in logistics and crisis management, and lowest in policing, totaling 13 points, along with Peru and Honduras, and surpassing Colombia (12), Bolivia (11), Chile (11), Guatemala (11), Mexico (10), Paraguay (10), El Salvador (10), Ecuador (9), Dominican Republic (9), Argentina (8) and Uruguay (8).

For the execution of these actions, formality and legitimacy were prerequisites observed by the Armed Forces. In this regard, one can consider as a positive point the fact that the Federal Government seeks that its various bodies work in an integrated manner, under its coordination. The creation of the GEI-ESPII and the Crisis Committee for Supervision and Monitoring of the Impacts of COVID-19 are evidence of these initiatives.

As for the Ministry of Defense, specifically, its actions in this context were formalized through Ordinances that contained Ministerial Guidelines that enabled the execution of essential actions in the context of a pandemic. In a scenario of restricted movement of people, as during the pandemic, it can be inferred, even if data for the year 2020 from several agencies are not available, as is the case of the Hemotherapy Bulletin - Anvisa (Hemoprod) 2020, that actions such as the donation of approximately 41,000 blood bags by the military, in addition to the production of 748,183 protective masks, the carrying out of COVID-19 tests, and the transporting of medical products and devices, were instrumental in alleviating a possible collapse in the healthcare public system in certain regions.

The public data made available by the MD suggest a variety of actions carried out depending on the location of the CCj, giving each one of them practically a unique identity, as a result of the social, economic and geographic characteristics of the region to which the CCj is assigned. In this sense, it would be reasonable to propose that the CCj drew up Contingency Plans for situations like these in the future, in accordance with their vocation, even though it is a consensus that all actions related to fighting pandemics should be carried out by civil authorities. Thus, documents such as "What Did the U.S. Military Learn in the First Year of the Pandemic?", developed by the CSIS Commission on Strengthening America's Health Security & CSIS International Security Program, could be useful in this process (CANCIAN; SAXTON, 2021).

On the other hand, this study would suggest that the State built a Guide based on scalable, flexible and adaptable concepts, bringing

strategies, guidelines and procedures on how the nation would respond to all types of disasters and emergencies, similar to the processes developed by the Federal Emergency Management Agency (FEMA), in the USA (UNITED STATES, 2019). In such a document, there would be cross-reference to the support of the Armed Forces in situations of pandemic, disasters, catastrophes and health emergencies.

INVESTMENTS IN TECHNOLOGY

In the questionnaires applied, responses emerged regarding the need to create a NB4 laboratory in Brazil. Such opinions are in line with the Ministry of Defense's initiatives that deal with the construction of this type of laboratory. As advantages, the achievement of technical-scientific autonomy and independence; the inclusion of Brazil in the very select group of countries with NB4 laboratories; the creation of a Center of Specialists in the area; the promotion of economic development; international projection; among others were highlighted. The need for this type of installation on national territory seems to have gained ground in the Ministry of Defense, making it necessary to verify the availability of financial resources to make this proposal real.

Another issue, also mentioned and contemplated in this study through the application of the questionnaires, was the need for investments in military pharmaceutical laboratories. Some cases are ongoing and others are expected to transfer technology from the manufacturing process of various antiretroviral drugs from private sector pharmaceutical companies to military pharmaceutical laboratories. However, almost all of these drugs are of synthetic origin. There is no doubt about the importance of increasing the portfolio of military pharmaceutical laboratories by promoting the transfer of manufacturing technology for these drugs, but above all, the capacity to manufacture biological drugs must be acquired.

The most modern therapeutic and preventive arsenal against viruses such as COVID-19 is based on medications containing monoclonal antibodies (Casirivimab, Imdevimab, Banlanivimab, Etesevimab and Regdanvimab) and on vaccines. Both drugs use Active Pharmaceutical Ingredients (API) of biological origin and their production and development processes keep similarities to each other. Medicines of biological origin, whose APIs are obtained by complex processes involving equipment and specific installations for this purpose, have gained prominence in

therapy at the expense of synthetic medicines. Monoclonal antibodies are immunoglobulins (proteins) derived from the same B lymphocyte clone capable of reacting with specific antigens of certain types of cells, therefore being indicated for the treatment of some types of cancer and configuring themselves in promising technology as far as regarding the possibility of selectively targeting and destroying tumor cells. In 2016, 41% of the 34 monoclonal antibodies marketed in Brazil (14 drugs) were intended for the treatment of neoplasms (VIDAL; FIGUEIREDO; PEPE, 2018). In consultation with Anvisa's website, the number of monoclonal antibodies indicated for the treatment of neoplasms more than doubled, with more than 30 drugs of this type being made available on the market for this indication (ANVISA, 2022a). Monoclonal antibodies are also used as antithrombotic agents, in multiple sclerosis, in psoriatic arthritis, in the treatment of bone and obstructive airway diseases. Additionally, the search for a treatment against the new emerging coronavirus has led to the use and development of monoclonal antibodies, which seemed during the height of the COVID-19 pandemic to provide a rapid and positive patient response (SHANMUGARAJ, 2020).

Military laboratories do not have an installed capacity for the production of APIs, neither of synthetic origin, much less biological. In this context, it is relevant to invest in these Military Organizations (MO) regarding equipment, facilities and human resources in order to prepare them, not only for the manufacture of this type of medicine in situations similar to the COVID-19 pandemic, but also in normal situations, guaranteeing the military family proper access to these medicines. In addition, the excess production could also be directed to the Unified Health System (Sistema Único de Saúde – SUS), returning the investment applied to the Forces, as they are products with high added value. Between 2015 and 2019, the federal government acquired about 2 millions units of monoclonal antibodies for oncology, spending approximately R$ 3 billions (MOSEGUI; VIANNA; CATÃO, 2021). In terms of the average price practiced, biological medicines reached the value of R$ 133.44 in 2019, while herbal, new and generic medicines had average prices of R$ 34.32, R$ 35.09 and R$ 6.35, respectively. In 2019, the sale of biological medicines represented 24.1% of total sales in the pharmaceutical market in Brazil. On the other hand, it is the type of product with the lowest representation in relation to the number of commercialized presentations. That same year, of the total number of drugs sold, only 3.1% were biological medicines

(SCMED, 2020). This market is currently controlled by multinational companies in Brazil. In consultation with the *Bulário Eletrônico da Anvisa*, practically all Marketing Authorization Holders (MAH) of monoclonal antibody to the treatment of neoplasms, import these medicines (ANVISA, 2022b)[6]. The manufacture of this type of product in Brazil occurs only in the factory of Libbs Farmacêutica (national company) in the case of VIVAXXIA® (Rituximab).

RELATIONAL CAPACITY AND INTEROPERABILITY

Although the responses to the questionnaires reflect advances in relation to the interoperability of the Special Forces and their integration with other agencies during Operation COVID-19, the need for these skills to be improved was also mentioned, in line with the findings of Almeida (2020) and Grohs, Biavaschi and Rodrigues (2020).

In this sense, a window of opportunity is opened for increasing interoperability through the standardization of procedures, the performance of exercises and training, in order to develop the military's ability to work in a proper manner and to multiply to the other Forces what is better in each of them.

As for the civil-military relationship, it is noteworthy that this relationship has improved during ongoing activities, due to the work carried out by the Joint Commands.

A recent initiative by the Brazilian Defense College demonstrates the importance of this topic. In 2021, at the request of the Institutional Security Office (Gabinete de Segurança Institucional - GSI) of the Presidency of the Republic, the Interagency Coordination and Planning Course was designed to fill a gap in the training of civilians and military personnel in regard to the interagency work developed within the scope of Integrated Border Protection Program (Programa de Proteção Integrada de Fronteiras - PPIF). The course aims to raise among students the importance of institutional and personal relationships in the development of interagency work, as well as to generate conditions for the creation of a culture of trust among the members of the agencies and bodies participating in the PPIF.

[6] The consultation was carried out on 08/16/2022 at *Bulário Eletrônico da Anvisa* available at https://consultas.anvisa.gov.br/#/bulario/

FINAL REMARKS

The COVID-19 pandemic is an ongoing phenomenon and will remain an object of study for several decades in the most diverse fields of science. The consequences of an event of this nature and of such magnitude are certainly unknown in its entirety and in terms of value. There is no doubt about the inclusion of the pandemic in the list of threats to security, corroborating the securitization of the topic already pointed out by other countries in their Security and Defense documents.

This study sought to bring to light the role of the Armed Forces in combating COVID-19 and identify opportunities for improvement, since the emergence of new pandemics is undeniable, and only their dimension remains to be known.

As a result, the great operational capacity of the Brazilian Armed Forces could be verified, conveyed by the numbers and diversity related to the activities performed. The interoperability and relational capability of the military with civilians should be highlighted during Operation COVID-19, providing agility and integration in the actions. Opportunities for improvement and suggestions to increase the readiness of the Armed Forces and the State itself in similar situations were pointed out in the work.

However, it is imperative to note some limitations of the present study. The results obtained are configured in extrapolations of a small sample that was willing to answer the questionnaire, since the adhesion was low by the military personnel and insignificant by the civilians. Associated to this, the researchers were unable to obtain authorization to access raw data from Operation COVID-19.

In any case, the study brought up questions that had been hardly addressed until then and could serve as a basis for conducting new, more in-depth studies that would shed light on the details of Operation COVID-19 in each of the Forces and in the MD.

AS FORÇAS ARMADAS NO COMBATE À COVID-19 NO BRASIL: PANDEMIAS COMO UM TEMA DAS AGENDAS DE DEFESA E SEGURANÇA

RESUMO

O enfrentamento à pandemia de COVID-19 no Brasil demandou ações do Governo Federal, através dos seus Ministérios e Autarquias. As Forças Armadas atuaram na Operação COVID-19, por meio dos seus 10 (dez) Comando Conjuntos (CCj) ativados e do Comando Aeroespacial para o emprego integrado dos meios de logística, inteligência e comunicações, em apoio aos órgãos de saúde e de segurança pública. O presente trabalho teve como objetivo estudar a atuação das Forças Armadas na pandemia de COVID-19, entendendo as pandemias como um tema da Defesa e abordando questões relacionadas à interoperabilidade e a integração entre civis e militares. Foi realizado um levantamento bibliográfico sobre o tema e a coleta de dados da Operação COVID-19. Um questionário também foi aplicado aos integrantes dos CCj, tanto militares, quanto civis. Verificou-se que as Forças Armadas apresentaram grande capacidade de mobilização, evidenciada pelos números e pela diversidade das atividades desempenhadas. A interoperabilidade e a capacidade relacional dos militares conferiram agilidade e integração nas ações. Por fim, foram feitas sugestões e apontadas oportunidades de melhoria para incrementar a prontidão operacional das Forças Armadas e do próprio Estado em situações similares.

Palavras-chave: Capacidade de Mobilização; Operação Interagências; Pandemia COVID-19; Relações civil-militar.

REFERENCES

ALEMANHA. Federal Government. **White Paper**: on german security policy and the Future of the Bundeswehr. 13 July, 2016. Disponível em: https://issat.dcaf.ch/download/111704/2027268/2016%20White%20Paper.pdf. Acesso em: 30 abr. 2021.

ALMEIDA, V. M. **A Atuação das Forças Armadas Brasileiras no Acolhimento de Refugiados e Migrantes Vulneráveis**. 2020. Dissertação (Mestrado em Ciências Militares) - Escola de Comando e Estado-Maior do Exército, Rio de Janeiro, 2020. Disponível em: https://bdex.eb.mil.br/jspui/handle/123456789/8908. Acesso em: 30 abr. 2021.

BARROS, J. G. P. et al. Medicina Global e Estratégia para fazer face a uma nova Pandemia. **Revista Militar**, Lisboa, v. 159, n. 2469, p. 1043-1060, out. 2007. Disponível em: https://www.revistamilitar.pt/artigopdf/234. Acesso em: 06 abr. 2020.

BARROS, R. S; LIMA, J. R. P. De A. A atuação do médico veterinário militar de outras nações na Defesa Química, Biológica, Radiológica e Nuclear: subsídio para modernizar a doutrina do Exército Brasileiro. **Coleção Meira Mattos**: revista das ciências militares, Rio de Janeiro, v. 14, n. 50, p. 151-173, maio/ago. 2020. Disponível em: file:///C:/Users/marcelo.moraes/Downloads/1890-Texto%20do%20artigo-7794-1-10-20200409.pdf. Acesso em: 05 abr. 2021.

BRASIL, Presidência da República. **Decreto n° 7.616, de 17 de novembro de 2011**. Diário Oficial [da] República Federativa do Brasil. Poder Executivo, Brasília, DF, 18 nov. 2011. Seção 1, p.14. Disponível em: https://www.planalto.gov.br/ccivil_03/_ato2011-2014/2011/decreto/d7616.htm. Acesso em: 29 abr. 2021.

BRASIL. Ministério da Defesa. **Política Nacional de Defesa - Estratégia Nacional de Defesa 2012**. Brasília, 2012a. Disponível em: https://www.gov.br/defesa/pt-br/arquivos/estado_e_defesa/END-PNDa_Optimized.pdf. Acesso em: 29 mar. 2021.

BRASIL. Ministério da Defesa. **Livro Branco da Defesa Nacional 2012**. Brasília, 2012b. Disponível em: https://www.gov.br/defesa/pt-br/arquivos/estado_e_defesa/livro_branco/livrobranco.pdf. Acesso em: 29 mar. 2021.

BRASIL. Ministério da Defesa. **Cenário de Defesa 2020 - 2039 - Sumário Executivo**. Assessoria Especial de Planejamento. Brasília: a assessoria, 2017. Disponível em: https://www.gov.br/defesa/pt-br/assuntos/copy_of_estado-e-defesa/revista_cenario_de_defesa.pdf. Acesso em: 28 abr. 2021.

BRASIL. Ministério da Saúde. **Boletim Epidemiológico n° 2**. Centro de Operações de Emergências em Saúde Pública, COE-nCoV. Secretaria de Vigilância em Saúde, Ministério da Saúde, COE 02, fev. 2020a. Disponível em: https://portalarquivos2.saude.gov.br/images/pdf/2020/fevereiro/10/Boletim-epidemiologico-SVS-10fev20-corrigido2.pdf. Acesso em: 29 abr. 2021.

BRASIL. Presidência da República. **Decreto n° 10.211, de 30 de janeiro de 2020**. Diário Oficial [da] República Federativa do Brasil. Poder Executivo, Brasília, DF, 30 jan. 2020b. Seção 1, edição extra, p.1. Disponível em: https://www.planalto.gov.br/ccivil_03/_ato2019-2022/2020/decreto/D10211.htm. Acesso em: 29 abr. 2021.

BRASIL. Presidência da República. **Decreto n° 10.277, de 16 de março de 2020**. Diário Oficial [da] República Federativa do Brasil. Poder Executivo, Brasília, DF, 16 mar. 2020c. Seção 1, edição extra, p.1, Disponível em: https://www.in.gov.br/en/web/dou/-/decreto-n-10.277-de-16-de-marco-de-2020-248166483. Acesso em: 29 abr. 2021.

BRASIL. Ministério da Defesa. **Portaria n° 1.232/GM-MD, de 18 de março de 2020**. Diário Oficial [da] República Federativa do Brasil. Poder Executivo, Brasília, DF, 19 mar. 2020d. Seção: 1, p.18. Disponível em: https://www.in.gov.br/en/web/dou/-/portaria-n-1.232/gm-md-de-18-de-marco-de-2020-248808643. Acesso em: 29 mar. 2021.

BRASIL. Ministério da Defesa. **Portaria n° 1.272/GM-MD, de 20 de março de 2020**. Diário Oficial [da] República Federativa do Brasil. Poder Executivo, Brasília, DF, 23 mar. 2020e. Seção: 1, p. 77. Disponível em: https://www.in.gov.br/en/web/dou/-/portaria-n-1.272/gm-md-de-20-de-

marco-de-2020-249244698. Acesso em: 29 mar. 2021.

BRASIL. Ministério da Defesa. **Política Nacional de Defesa - Estratégia Nacional de Defesa**. Nº 00100/2020 MD, 15 jul. 2020f. (versão encaminhada ao Congresso Nacional em 22 de julho de 2020). Disponível em: https://www.gov.br/defesa/pt-br/assuntos/copy_of_estado-e-defesa/politica-nacional-de-defesa> e <https://legis.senado.leg.br/sdleg-getter/documento?dm=8865685&ts=1614082662204&disposition=inline. Acesso em: 29 mar. 2021.

BRASIL. Ministério da Defesa. **Livro Branco da Defesa Nacional**. Brasília, jul. 2020g. (versão encaminhada ao Congresso Nacional em 22 de julho de 2020). Disponível em: https://www.gov.br/defesa/pt-br/assuntos/copy_of_estado-e-defesa/livro_branco_congresso_nacional.pdf. Acesso em: 29 mar. 2021.

BRASIL. Ministério da Saúde. **Plano de Contingência Nacional para Infecção Humana pelo novo Coronavírus COVID-19**. Centro de Operações de Emergências em Saúde Pública, COE-COVID-19. Brasília, DF, fev. 2020. 24 p. Disponível em: https://portalarquivos2.saude.gov.br/images/pdf/2020/fevereiro/13/plano-contingencia-coronavirus-COVID19.pdf. Acesso em: 01 abr. 2021.

BRASIL. Ministério da Defesa. **Comandos Conjuntos**: operação COVID-19. 2021a Disponível em: https://operacaocovid19.defesa.gov.br/comandos-conjuntos. Acesso em: 21 abr. 2021.

BRASIL. Ministério da Defesa. **A Defesa**: proteção e benefícios para a sociedade. Nov. 2021b. Disponível em: https://www.defesanet.com.br/defesa/noticia/43342/Ministerio-da-Defesa-divulga-balanco-com-realizacoes-do-trienio-2019-2021/. Acesso em: 21 abr 21.

BUSAN, B; HANSEN, L. **A evolução dos Estudos de Segurança Internacional**. Coleção Paz, Defesa e Segurança Internacional. Tradução: Flávio Lira. São Paulo: Unesp, 2012.

CÂMARA, R. H. Análise de conteúdo: da teoria à prática em pesquisas sociais aplicadas às organizações. Gerais: **Revista Interinstitucional de Psicologia**, v. 6, n. 2, p. 179-191, jul./ dez. 2013. Disponível em: http://

pepsic.bvsalud.org/pdf/gerais/v6n2/v6n2a03.pdf. Acesso em: 26 abr. 2021.

CANCIAN, M.F.; SAXTON, A. **What Did the U.S. Military Learn in the First Year of the Pandemic?** CSIS Commission on Strengthening America's Health Security & CSIS International Security Program. Washington, Mar. 2021. Disponível em: https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/210323_Cancian_What_Military.pdf?AHA1o8n2Yo5ZqnLjAtDfNQei3YJQr0rs. Acesso em: 05 abr. 2021.

CHINA. **China's National Defense in the New Era**: the state council information office of the people's Republic of China. 1° ed., July, 2019. Disponível em: https://www.xinhuanet.com/english/2019-07/24/c_138253389.htm. Acesso em: 26 abr. 2021.

COELHO, A. M. O combate à COVID-19 no Conceito Estratégico de Defesa Nacional 2013. **Revista Militar**. Lisboa, v. 6/7, n. 2621/2622, p. 555-582, jun./jul. 2020. Disponível em: http://www.revistamilitar.pt/recursos/files/2020/Revista_Militar_Jun-Jul_2020.pdf. Acesso em: 05 abr. 2021.

CRAIG, A.; BAEZ, A.; RUTLAND, J. Human security as biosecurity: Reconceptualizing national security threats in the time of COVID-19. **Politics and the Life Sciences**. Estados Unidos da América, v. 40, n. 1, p. 83-105, spring 2021. Disponível em: file:///C:/Users/marcelo.moraes/Downloads/human-security-as-biosecurity-reconceptualizing-national-security-threats-in-the-time-of-covid-19.pdf. Acesso em: 10 maio 2021.

FERRETTI, L. *et al*. Quantifying SARS-CoV-2 transmission suggests epidemic control with digital contact tracing. **Science**, v. 368, n. 6491, May 2020.

FRANÇA. Ministère des Armées. **Defense and National Security Strategic Review 2017**. Paris, 2017. Disponível em: https://espas.secure.europarl.europa.eu/orbis/sites/default/files/generated/document/en/DEFENCE%20AND%20NATIONAL%20SECURITY%20STRATEGIC%20REVIEW%202017.pdf. Acesso em: 26 abr. 2021.

FRANÇA. Ministère des Armées. **Strategic Update 2021**. Paris, 2021. Disponível em: https://www.stjornarradid.is/library/03-Verkefni/Almannaoryggi/Thjodaroryggismal/France%20-%20Strategic%20

Review%202021.pdf. Acesso em: 26 abr. 2021.

FRANCHI, T. As Ciências Militares frente à pandemia do COVID-19. **Coleção Meira Mattos**. Rio de Janeiro, v. 14, n. 50, p. V-VIII, maio/ago. 2020. Disponível em: https://www.ebrevistas.eb.mil.br/RMM/article/view/4278/3615. Acesso em: 05 abr. 2021.

FROES, F. A pandemia SARS-CoV-2: a origem, a inevitabilidade e o que precisamos aprender. **Revista Militar**. Lisboa, v. 6/7, n. 2621/2622, p. 583-589, jun./jul. 2020. Disponível em: http://www.revistamilitar.pt/recursos/files/2020/Revista_Militar_Jun-Jul_2020.pdf. Acesso em: 09 abr. 2021.

GROHS, M.; BIAVASCHI, E. L.; RODRIGUES, K. F. Forças Armadas e Capacidade Relacional na Operação COVID-19. **Military Review**: Revista Profissional do Exército dos EUA, edição Brasileira. p. 2-7, maio, 2020. Disponível em: https://www.armyupress.army.mil/Portals/7/military-review/Archives/Portuguese/Online%20Exclusives/Grohs-forcas-armadas-e-capacidade-relacional-na-operacao-COVID-19-POR-OLE-Maio-2020.pdf. Acesso em: 28 abr. 2021.

ISTO É DINHEIRO. **EUA e Alemanha brigam por vacina contra coronavírus, informa jornal alemão**. 2020. Disponível em: https://www.istoedinheiro.com.br/eua-e-alemanha-brigam-por-vacina-contra-coronavirus-informa-jornal-alemao/. Acesso em: 24 nov. 2021.

LIKERT, R. A technique for the measurement of attitudes. **Archives of Psychology**, v. 22, n. 140, p. 44-53, 1932. Disponível em: https://legacy.voteview.com/pdf/Likert_1932.pdf. Acesso em: 24 nov. 2021.

MCGINN, J. **Building Resilience**: Mobilizing the Defense Industrial Base in na Era of Great-Power Competition. 2021 Index of U.S. Military Strength. Washington: The Heritage Foundation. p. 37-54, 2021. Disponível em: https://www.heritage.org/sites/default/files/202011/2021_IndexOfUSMilitaryStrength_WEB_0.pdf. Acesso em: 8 dez. 2021.

NORTH ATLANTIC TREATY ORGANIZATION - NATO. **Allied Joint Doctrine for Medical Support AJ P-4.10(A)**. 2011. Disponível em: https://shape.nato.int/resources/site6362/medica-secure/publications/ajp-4.10(a).

pdf. Acesso em: 09 abr. 2021.

NORTH ATLANTIC TREATY ORGANIZATION - NATO. **Resilience and Article 3**. North Atlantic Treaty Organization, 11 June, 2021. Disponível em: https://www.nato.int/cps/en/natohq/topics_132722.htm. Acesso em: 09 dez. 2021.

O GLOBO. **Carga chinesa com 600 respiradores artificiais é retida nos EUA e não será enviada ao Brasil**. 03 abr. 2020. Disponível em: https://oglobo.globo.com/brasil/carga-chinesa-com-600-respiradores-artificiais-retida-nos-eua-nao-sera-enviada-ao-brasil-24349142. Acesso em: 24 nov. 2021.

PAFIADACHE, M. L. N. **O Ministério da Defesa e o enfrentamento à pandemia da COVID-19**. In: Palestra na Escola Superior de Guerra (Campus Brasília), Curso de Altos estudos de Defesa, 26 ago. 2020. Repositório da ESG/Brasília. Brasília: ESG, 2020.

PASSOS, A. M.; ACÁCIO, I. The militarization of response to COVID-19 in Democratic Latin América. **Revista Brasileira de Administração Pública**, Rio de Janeiro, v. 55, n. 1, p. 261-271, jan./fev. 2021. Disponível em: https://www.scielo.br/scielo.php?pid=S0034-76122021000100261&script=sci_arttext Acesso em: 26 abr. 2021.

PORTUGAL. Ministério da Defesa. Conceito Estratégico de Defesa. Resolução do Conselho de Ministros n° 19/2013. **Diário da República**, Lisboa, 1. Série, n. 67, 5 abr. 2013. Disponível em: https://dre.pt/application/file/a/259983. Acesso em: 02 abr. 2021.

PORTUGAL. Lei de Defesa Nacional - Declaração de Retificação n.º 52/2009. **Diário da República**: n.º 138/2009, Série I, 20 jul. 2007. Retifica a forma e o número da Lei n.º 31-A/2009, Diário da República, 1. série, n.º 129 (suplemento), Lisboa, 7 jul. 2009. Disponível em: https://dre.pt/web/guest/legislacao-consolidada/-/lc/67038219/202104081944/exportPdf/maximized/1/cacheLevelPage?rp=indice. Acesso em: 06 abr. 2021.

PORTUGAL. Direção Geral de Saúde. **Plano Nacional de Preparação e Resposta à Doença por novo coronavírus (COVID-19)**. Documento em pré-publicação, 2020. Disponível em: https://www.dgs.pt/documentos-e-

publicacoes/plano-nacional-de-preparacao-e-resposta-para-a-doenca-por-novo-coronavirus-covid-19-pdf.aspx. Acesso em: 06 abr. 2021.

UNITED STATES OF AMERICA. National Security Strategy. **National Response Framework**. 4 ed., 28 Oct. 2019, 57 p. Disponível em: https://www.fema.gov/sites/default/files/2020-04/NRF_FINALApproved_2011028.pdf.Acesso em: 01 maio 2021.

UNITED KINGDOM. Government. **Global Britain in a competitive age**: the Integrated Review of Security, Defence, Development and Foreign Policy. Mar. 2021. Disponível em: https://www.gov.uk/government/publications/global-britain-in-a-competitive-age-the-integrated-review-of-security-defence-development-and-foreign-policy. Acesso em: 29 abr. 2021.

SILVA, P. V; JORGE, T. A. **Análise de conteúdo por meio de nuvem de palavras de postagens em comunidades virtuais: novas perspectivas e resultados preliminares**. Atas CIAIQ2019 - Investigação Qualitativa em Saúde. v. 2, 2019. Disponível em: file:///C:/Users/marcelo.moraes/Downloads/2002-Texto%20Artigo-7457-1-10-20190618.pdf. Acesso em: 18 maio 2021.

WORLD HEALTH ORGANIZATION – WHO. **Strategic action plan for pandemic influenza**. n. WHO/CDS/EPR/GIP/2006.2a, 2007. 22 p. Disponível em: https://www.who.int/csr/resources/publications/influenza/StregPlanEPR_GIP_2006_2.pdf?ua=1. Acesso em: 06 abr. 2021.

WORLD HEALTH ORGANIZATION - WHO. **Who's COVID-19 response**. 2020. Disponível em: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/interactive-timeline#!. Acesso em: 29 abr. 2021.

*** Recebido em 31 de janeiro de 2022, e aprovado para publicação em 15 de setembro de 2022.**