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Animal welfare program for military working dogs in Brazil: clinical behavioural and performance analysis

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Summary

Military working dogs (MWD) have been a valuable resource for the Brazilian Army for over 70 years, although their specific welfare needs are yet to be established. The aim of the present work was to map the animal welfare (AW) situation of MWDs in a selected unit, as well as producing and implementing an AW program. Methods-Results: Fourteen animals were included in the study: males and females, 2-12 years old, Rottweiler, German Shepherd and Belgian Malinois (BM). The assessment of the animals, done before and after the execution of the program, was divided in: 1- Behavioural consultation, 2- Performance test (PT) [1], 3- Work and AW assessment (discussed in another abstract). Results were compared by ANOVA ($p < 0.05$). The AW program lasted for five months, based on a previous report from our group [2]. The program had two training modules (30h total), besides recommendations and adjustments to the animal handling routine. The first clinical behavioural evaluation revealed minor signs of high-level activation/arousal, particularly in older animals. In subsequent evaluations, one dog presented acral dermatitis, which might have been triggered by an increase in training demand. Medication and training adjustments solved the aforementioned condition. PT results indicated the AW program influenced two of the six test exercises, as shown in table 1. Conclusion: in summary, the AW program was able to affect positively some performance indicators, but it did not change others. Moreover, if a clinical behavioural intervention had not been made, problems would have probably arisen. Further improvements in the structuring and execution of the program should be implemented. References: [1] S. Barnard et al. "Welfare Assessment Protocol for Shelter Dogs," Teramo, Italy, 2014. [2] O. A. B. Soares et al. "Proposal of a customized animal welfare protocol for military kennels" Pet Behaviour Science, v. 7, n. 7, p. 24–28, 2019, doi: 10.21071/pbs.v0i7.11802.

Table 1. Performance test grades, obtained by MWD before and after the execution of an AW program.

Section	Exercise	Before	After
Obedience	1. Guided handling	25.0	26.4
	2. "Sit"	20.0	20.0
	3. "Down/Here"	30.0	30.0
	4. "Rest"	25.0	22.2
Protection	1. Assault (Run and bite)	35.7	40.7*
	2. "Out"	20.7	25.0*
	Total	159.0	161.0

*($p <0.05$)

Animal welfare program for military working dogs in Brazil: work routine and Emotional State Profile

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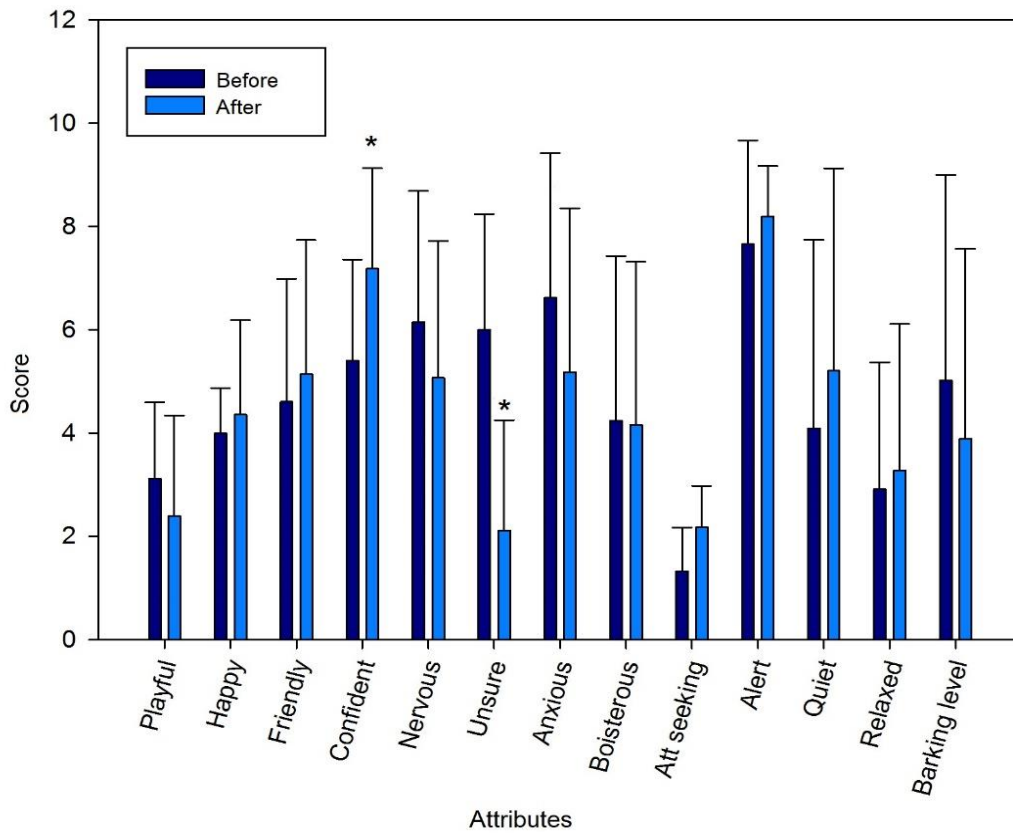Exército Brasileiro

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Summary

Military working dogs (MWD) have been a valuable tool for the Brazilian Army for over seven decades, although their specific welfare needs are yet to be investigated. The aim of the present work was to execute an animal welfare (AW) program for MWD and investigate its influence on dogs' welfare and performance. Methods-Results: Fourteen animals were included in the study: males and females, 2-12 years old, Rottweiler, German Shepherd and Belgian Malinois (BM). The evaluation of the animals included: 1- Work/leisure routine quantification; 2- Emotional state profile (ESP) assessment [1], 3- Behavioural and performance evaluation (discussed in another abstract). We compared results using the Student "t" test for repeated measures and ANOVA ($p < 0.05$). The AW program lasted for five months, based on a previous report [2]. The program had two training modules (30 h total), besides adjustments to the handling routine. The work quantification revealed a significant increase in time spent on training. Despite the increase, the absolute number (3 min/dog/ day) is still low, far from the recommended minimum (12 min/day/dog). That can be explained by taking into consideration that some dogs trained much more than others, as well as the high number of hours which they spent performing service. The ESP results of the animals are shown in the graph below. The ESP attributes have a large individual variance; therefore, it becomes difficult to establish significant statistical differences. However, the AW program applied could influence positively at least two of the thirteen attributes measured. Conclusion: In summary, the AW program was able to affect positively some welfare indicators, but it did not change others. Further improvements should be implemented in structuring and execution before applying it in other kennels. References: [1] S. Barnard et al. "Welfare Assessment Protocol for Shelter Dogs," Teramo, Italy, 2014. [2]O. A. B. Soares et al. "Proposal of a customized animal welfare protocol for military kennels" Pet Behaviour Science, v. 7, n. 7, p. 24–28, 2019, doi: 10.21071/pbs.v0i7.11802.

Figure 1. Graph showing average scores of all Emotional State Profile attributes of MWD before and after the Animal Welfare program. * = statistical difference (P<0.05).

Difficulties in Implementing Pre-Hospital Care in Law Enforcement Operations of Brazilian Army in Favelas of Rio de Janeiro, Doctrine Proposal

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Summary

In Brazil, the military is often used in subsidiary actions such as Law and Order Enforcement (LOE), actions to support law enforcement agencies, in a previously established area and period, in civil disturbance situations. Brazilian favelas are one of the main theaters of LOE operations. The specificities of this type of occupation, such as narrow and irregular routes and potential multidirectional positioning of the shooter, are factors that cause great difficulty in caring for and evacuating a potentially injured person in combat. Methods-Results: A specific questionnaire was applied to 52 members of the Brazilian Army (BA) of varying hierarchical levels deployed in LOE. The purpose was to understand the difficulties found today in the tactical scope of the force on the topic of pre-hospital care (PHC) that is so current and relevant. The main data obtained in the survey was that 65.4% of the military personnel interviewed were not aware of the Tactical Casualty Combat Care (TCCC) protocol, and only 7.7% had undergone such training. Additionally, 48.1% said they had not undergone any PHC-specific training, which suggests a potential deficiency in the qualification of the ground force to care for the wounded, in accordance with international protocols. Upon reviewing the materials made available to military personnel on a mission, 53.9% did not have a tourniquet in their individual kits and 25% claimed not to have any of those listed in the questionnaire (Table 1). Upon assessing the casualty evacuation time, considering the "10-1-2 Doctrine" currently adopted by the UN, 65.4% of the military personnel said that they required more than the "platinum 10 minutes" to evacuate the wounded from the hot zone to the ambulance, a crucial factor to define the prognosis of a seriously injured person. Conclusions: In 2020, the 1st edition of the Basic Tactical PHC Campaign Manual was published, showing the Brazilian Army's concern for the subject. Therefore, it is essential to implement the subject in the BA's military Basic Instruction Plans, aiming to improve the qualification of the ground force manpower, as well as supplement basic individual materials. The TCCC itself emphasizes, in its introduction, that the protocol is changeable and should be adapted with time, according to newer studies, equipment and techniques that may arise. It is therefore encouraged to have more scientific research on the topic, taking into consideration the country's specificities.

Health Protection in Humanitarian Logistical Task Force of Brazil: implementing One Health approaches on the border with Venezuela

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Summary

The Humanitarian Logistical Task Force of Brazil, denominated "Welcome Operation", has been an instrument of the Brazilian State with the purpose of giving support to the reception of immigrants at the Brazil-Venezuela border. The Task Force was activated in 2018 in the state of Roraima, northern region of Brazil, where immigrants in higher vulnerability situation were received. Previous disorderly migration caused the appearance of cases of malaria, leishmaniasis and other infectious diseases, culminating in the declaration of a regional public health emergency. In this context, the present study aims to describe the One Health actions performed by the Health Cell and coordinated by the veterinary officer as part of the 6th military contingent of "Welcome Operation". Methods-Results: The study compiled records of activities planned to protect troops and migrants' health from July to November 2019. Such actions were supported by diagnosis of the prior general situational and carried out through scheduled and unexpected inspections, continuous guidance, report issuing, and execution of preventive and corrective measures. All actions were done according to Brazilian legislation and taking the One Health approach into account. Various activities were carried out: food safety, water quality control, zoonosis and pest control, environmental management, veterinary medical assistance and health intelligence, being performed more than 240 One Health actions. Those activities were carried out in several places: immigrant shelters and service stations, spontaneous occupations sites and in troop's facilities and accommodations. Profound qualitative improvements in some health aspects of the troop and migrants could be observed despite the short period of the study. Health personnel rotation every four months, peculiarities of the operation and relatively poor local health infrastructure were regarded as factors of negative impact. A detailed recording of all health aspects could be used as guidance for future contingent and the continuation of health protection practices. Conclusion: Based on the records and observations, it was concluded that health protection actions with the One Health perspective were capable of improving health aspects of troops and migrants in contact with the Task Force.

Table 1. Health Protection activities, by type and location, carried out on "Welcome Operation", from July to November 2019.

Activity	Local							TOTAL
	TF Base	RSP	ISS	Border Shelters	PBS	Military units	Spontaneous occupation sites	
Food Safety	1	2	1	11	7	1	0	23
Zoonosis control	12	8	11	49	17	0	6	103
Vector control	1	0	0	0	1	0	0	2
Pest control	6	2	2	15	2	11	1	39
Veterinary medical assistance	7	14	0	6	3	2	3	35
Health Intelligence	2	1	0	0	1	1	2	7
Water quality control	8	2	0	4	10	0	1	25
Environmental management	3	0	0	2	2	0	1	8
TOTAL	40	29	14	87	43	15	14	242

Code: TF Base   Task Force Base
            RSP   Reception and Service Post
             ISS   Interiorization and Screening Station
            PBS   Pacaraima Base and Shelter

How strong we need to be? Brazilian Army Operational Health Course physical admission tests and the TCCC demands

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Summary

The Brazilian Army (EB) created in 2018 the Curso de Saúde Operacional (Operational Health Course - CSOp) as a training program for health personnel to perform prehospital care in military operations in different environments as urban, jungle and mountain and to support combat search and rescue (C-SAR) operations. The seven weeks training focused on developing tactical care in a series of military scenarios, working along with Special Operations, Pathfinders, Police and Armed Forces. The Military Pre-hospital Care (MPHC) has different physical requirements due to Brazil's extensive territory and diverse operational environments. In many operations, reaching the wounded is a challenge. SAR and C-SAR activities require strength, endurance and special skills as swimming and climbing. Safety was the main objective of creating an initial Physical Aptitude Exam (PAE). Selecting candidates who are in adequate physical condition to withstand the wear and tear required throughout the course, aims to maintain the physical integrity of the military. The increased physical capacity of the students makes possible to raise the level of complexity of the simulated exercises and, consequently, the technical level of the course. This requirement also made it possible to train military with real readiness for operations. Due to the women increasing role in Armed Forces the test for the CSOp is the first gender neutral in the Brazilian Army. Methods: During the first two editions of the CSOp was observed that many drills and exercises needed to be softened or interrupted due to the lack of physical conditions of the trainees. For these two initial courses only the regular EB fitness tests were applied with different gender indexes. During the third edition a team from Brazilian Army Research Institute of Physical Fitness – IPCFEx maped the main and specific activities performed during the course. The gender neutrality was pointed as a necessity due to the women being about 90% in technical nursing corps and the understanding that soldiers of both genders will have to perform the same functional tasks during combat. Basic skills such as physical stamina, strength and endurance as well as specific skills necessary to carry out health support in adverse conditions, isolated areas, guerrilla fighting, and poor evacuation resources were selected. Selected skills were dragging and victims transport, speed for short runnings and overcoming obstacles (such as walls), removing passengers from vehicle onfire, vehicle, overturned or armored, floating, swimming underwater and military swimming.

After this work a physical entrance test was proposed. Conclusions: As the Curso de Saúde Operacional (Operational Health Course - CSOp) became the most rigorous operational training program for Health personnel in the history of EB, gender neutral physical is fundamental do guarantee the efficiency of the medical corps and avoid gender selection to complex missions as well as preserver the physical integrity of the students. There is a need to create specific training programs for military health personnel to prepare the troops, particularly for asymmetric (irregular) combat scenarios in isolated areas with few resources with patterns far from the ordinary standards.

Long Term Contraception in Operations as a tool to increase women´s performance and safety

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Summary

The women increasing role in Armed Forces and the entrance in the combatant branch of Brazilian Army demanded specific approaching in women health's care. Unwanted pregnancy is an issue that can directly impacts on the operative capacity. The peculiar routine of military during deployment demands a practical contraceptive method. Sexual violence is also an issue that women can suffer if captured. Aiming to offer an easy and effective protection against unwanted pregnancy this work proposes a protocol for use during deployment using long-term hormonal contraception, that are the more effective and low maintenance. It also helps to decrease menstrual blood loss and dysmenorrhea, improving the performance and protecting against unwanted pregnancy in cases of violence. Methods: To support the suggested protocol, a literature review was carried out on contraception with emphasis on long-term hormonal contraceptive methods, through research in the Up to Date, Pubmed, RedeBie, and Brazilian Army manuals and ordinances. Conclusions: With the increase in women's participation in the military, there is a demand for the adoption of new protocols, in attention to women's health care, especially in operational situations. Contraception is an important aspect since unwanted pregnancy affects not only the military's personal and professional life, but the operational capacity of the troop. Evidence shows that the adoption of long-term hormonal contraceptive methods, such as the LNG-IUS, are the most appropriate conduct, aiming at safety and practicality. The creation of a counseling and contraception protocol for military women, aimed at preparing for missions, is of paramount importance to improve the quality of care with the female segment of the troop, avoiding casualties, protecting health and increasing their performance.

Protecting Brazilian indigenous from Covid-19

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Summary

From June 6th to December 14th 2020, Brazilian Defense Ministry, together with Brazilian Health Ministry (BHM) and Brazilian Justice Ministry sent health militaries to 16 Brazilian Indigenous Tribes, from the furthest corners of the country, in the heart of Amazonian Jungle, to the closest places to civilization, keeping in each mission about 25 health people, between doctors, nurses, dentists, nutritionists, physical therapists, nursing and laboratory technicians, veterinaries and pharmacists, to provide health assistance, personal protection equipment, material, medicines, vaccines, lab tests, diagnosis and treatment for CoViD-19. Methods-results: The 16 Indigenous Missions were programmed by the Logistical and Mobilization Control Center (CCLM) of Brazilian Armed Forces (BAF), created with the CoViD-19 pandemic, in March 2020. It had cells of logistics, transportation, and health. Health military people were selected from different parts of the country, depending on their specialization, according to the BHM daily pandemics statistics, and its Indigenous Health Special Secretary (SESAI). They proposed the tribes with greatest incidence of the disease and proven deaths, and CCLM decided the priority where to go, depending on the available logistical support on that time. The transport of the militaries was made by airplanes of Brazilian Air Force till the nearest cities, where they stayed lodged in Army Barracks and every day they went to the tribes in small airplanes or in helicopters. Were used 7 types of fixed wing and 2 types of rotary wing aircrafts. 72 hours before the trip everybody should collect a RT-PCR Test that should be negative, and they should remain in lockdown till the trip, wearing masks 24/24 hours, during all the mission, each one that took about 7-8 days. SESAI has service stations and specific personnel in the Indigenous Districts; those people gave local support for all the operations. Conclusion: 401 BAF health military professionals provided health services to 155.200 Brazilian Indigenous, with 63.880 medical consultations, and 54,5 Tons of health supplies were delivered. Military Engineering made an artesian well drilling, providing water for 5 tribes in Amazonian Region. And the most important: hundreds of lives were saved and protected against the invisible enemy.

Figure 1. Amazonian Brazilian Indian during medical consultation.

Crédito da foto: Ministério da Defesa.

Resilience in the face of COVID-19 in the Humanitarian Logistics Task Force of Brazil on the border with Venezuela

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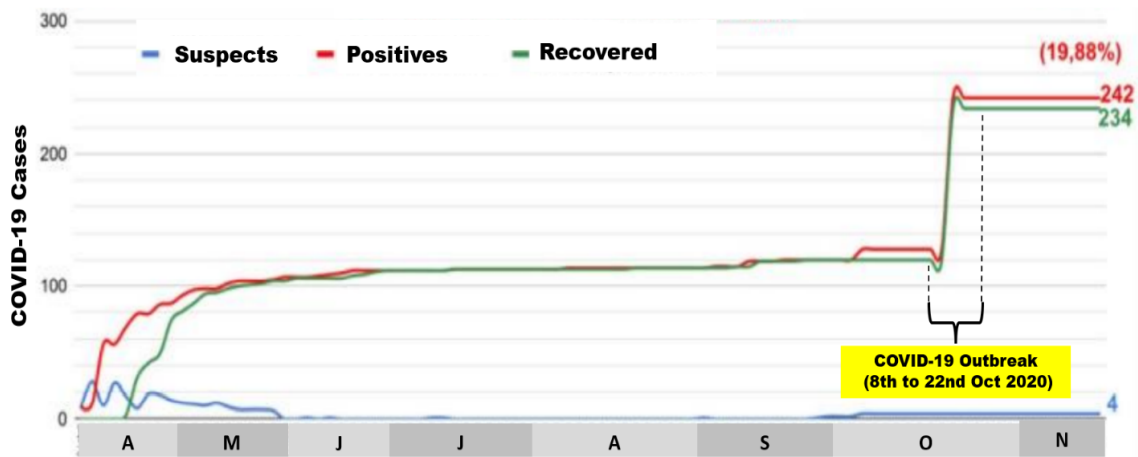
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Summary

The economic, political and social crisis in Venezuela has already caused the migration of more than 6 million Venezuelans, which represents about 20% of the population by 2021. Since 2018, Brazil has been welcoming these migrants, instituting a Humanitarian Logistics Task Force (HLTF), called Welcome Operation. This Operation was greatly impacted by the COVID-19 pandemic in 2020. The present study aimed to describe the health situation and the actions to face the pandemic addressed to protect the military and migrants health of Welcome Operation. Methods-Results: This exploratory study used quantitative and qualitative techniques, with descriptive analysis. In 2020, field collection was carried out in Boa Vista, Roraima, and key actors of the 9th Contingent were interviewed (deployed between September 2020 and January 2021). In the field research, visits to the shelters of the 5,000 Venezuelans welcomed were made and the functioning of health support and the main health challenges were mapped. From 18th to 22nd of October 2020, there was a major outbreak of COVID-19 among the military, in with 20% of the troop was affected, causing a low operationality. The follow-up of the COVID-19 case series among the military in the operation, indicating the moment of the mentioned outbreak. In comparison, the reports collected indicated that in the previous contingent the number of suspected cases was estimated at 180 (30% of the troops). In total 15% of migrants were infected, which demonstrates a similar incidence to the troops, with an approximate lethality of 1.3%. The HLTF implemented an innovative initiative to face the pandemic through the creation of the Protection and Care Area (PCA), a kind of quarantine and integrated field hospital. The PCA served over 11,000 people by November 2020, reducing the impact of the pandemic. Conclusion: Even with the high initial impact of the pandemic on the military contingents and on sheltered migrants, it was possible to verify the effectiveness of the innovative confrontation measure that took place at the Protection and Care Area (PCA), reducing the spread of outbreaks and avoiding deaths.

Figure 1 – Cases and incidence of COVID-19 in the Contingents of the Military Component of Welcome Operation (April to November 2020). Source: prepared by the authors with data from Welcome Operation

Return to Beloved Homeland Operation – The rescue of Brazilian people exposed to coronavirus in Wuhan- China

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Summary

The "Return to Beloved Homeland Operation" was the rescue of 34 Brazilian civilians, that were living in Wuhan, China, when the country had forbidden international travel by its residents, due to CoViD-19. The Brazilian Government determined to the Ministry of Defense (MD) to plan, coordinate, and execute the actions, to bring them home, ensuring the conditions to prevent the transmission of the new coronavirus in national territory. Methods-Results: It happened from 02 to 28 February 20, under the coordination of MD. 02 Legacy EMB-145 aircrafts, from Brazilian Air Force, were sent to Wuhan, with a Health Team capable and trained in Biological Defense and equipped with personal protection equipment (PPE), to provide medical assistance during the trip and to ensure the crew safety. In the arrival, the 34 repatriated Brazilians were lodged in Anapolis Air Base, in Goiás State, and remained in total lockdown for 14 days, because they were "exposed to the new virus". That place was classified as "Red or Hot Area", because of contamination danger. In the same Air Base, it was deployed an Army Field Hospital (AFH), considered as "Yellow or Warm Area", which served to provide initial care in case of clinical manifestations of any nature, during the quarantine period. It was an isolated area, with rooms set up for emergency care, including an Intensive Care Unit, with continuous cardiac monitoring and mechanical ventilation, individual wards, laboratory and image exams, and a dental office for acute situations, aiming avoid the remotion of the patients from the Air Base. All military health professionals were trained in clinical emergencies and in the correct use of PPE. There were bubble litters and helicopters ready to do the transportation to Brasília Armed Forces Hospital, 153 km faraway, in case of emergency not well controlled in the AFH. Conclusion: 34 Brazilian civilians, including children, were brought back home by MD, after being exposed to CoViD-19 in Wuhan, China. They remained in lockdown during 14 days in Anapolis Air Base, with all the logistical support for health care, preventing the dissemination of the new virus, and had been tested each 4 days. Nobody was infected and they received medical release in Feb 21. The 1st official CoViD-19 Brazilian case occurred in Feb 26, in São Paulo, in a traveler arrived from Italy.