

## SELF-PERCEPTION OF ORAL HEALTH AND QUALITY OF LIFE OF OFFSHORE MILITARY

Juliana Cristina Carlos\*  
Anna Thereza Thomé Leão\*\*  
Daniela Cia Penoni\*\*

### ABSTRACT

Emotional and physiological changes resulting from stressful factors, and neglected oral conditions can impact physical readiness and quality of life of military personnel aboard. This study aimed to report the experience of the influence of self-perceived oral health on quality of life of military personnel onboard the Brazilian Training Ship Brasil. During the annual midshipmen training cruise (MTC), 227 students from the Naval School and 259 crew members were subjected to the application of a structured questionnaire named Oral Health Impact Profile (OHIP-14), which measures the quality of life related to oral health. For cadets, half of items in this questionnaire had scores that significantly worsened at the end of the mission, showing that self-perception of oral health impacted the quality of life. These results can be useful for implementing strategies to improve well-being, and mitigate the negative health impacts of soldiers aboard.

**Keywords:** Self-perception. Stress. Quality of life. Military.

---

\* Master's Degree in Dentistry – Periodontics concentration area – Rio de Janeiro State University (UERJ). ORCID: <https://orcid.org/0000-0002-0051-5392> Contact: [jcc\\_ufrj@yahoo.com.br](mailto:jcc_ufrj@yahoo.com.br)

\*\* Post-doctorate at the Oswaldo Cruz Foundation (FIOCRUZ). Doctorate in Social Dentistry at University College London, UCL, England. Professor of the Postgraduate Course in Dentistry at the Federal University of Rio de Janeiro (UFRJ), Rio de Janeiro, RJ, Brazil. ORCID: <https://orcid.org/0000-0001-5249-6616> Contact: [attleao@gmail.com](mailto:attleao@gmail.com)

\*\*\* Postdoctoral student in Periodontics at the Federal University of Rio de Janeiro (UFRJ). PhD in Dentistry – Periodontics concentration area at the Federal University of Rio de Janeiro (UFRJ) and extension at the University of Sheffield, United Kingdom. Master's Degree in Dentistry – Periodontics concentration area at the Federal University of Rio de Janeiro (UFRJ). In charge of the Dentistry Division of the Hospital Naval de Brasília, Brasília, DF, Brazil. ORCID: <https://orcid.org/0000-0001-9587-412X> Contact: [ciapenoni@yahoo.com](mailto:ciapenoni@yahoo.com)

## **1 INTRODUCTION**

The military career requires some adaptations in terms of cognitive, physical, technical, and social aspects. The distance from living with family and friends, adapting the body to intense physical exercise, sleep deprivation, and the internship regime are among the challenges faced by the military throughout their career (LIMA et al., 2017).

The high professional mobility characterized by the possibility of moving to any military unit in the country, according to the needs of the institution and expertise, is identified as one of the causes of disturbance in the military career.

Transfers often require the performance of service in military units or agencies geographically distant from the residence where the military was established (VILHENA, 2005).

Considering that the military personnel always act in a state of readiness and carries out their activities from an organizational context of extreme responsibility and obedience to the hierarchical framework, the exposure of the military to different types of pressure is intrinsic and notorious.(GOMES; BELÉM; TELES, 2014).

Work, occupational or work-related stress can be defined as the product of the relationship between the individual and the work environment, in which the demands of this environment exceed the individual's coping skills, causing excessive wear on the body and interference in productivity (PERKINS, 1995).

The experience of stress or stressful events can contribute to the individual's vulnerability to health problems and, thus, contribute to the appearance of physiological and emotional symptoms (ROSSETTI et al., 2008). Potentially negative physical symptoms include headaches, teeth grinding, neck and shoulder pain, gastritis, colitis, weight gain or loss, heart palpitations, and increased blood pressure, while psychological symptoms include anxiety and insomnia (HESPANHOL, 2005).

Oral health is a dimension often neglected among the military personnel, although its assessment is part of examinations for admission to active service and readiness for missions, in which treatment needs are pointed out and therapeutic solutions suggested (MARKER; VIGILD; PRAETORIUS, 1997). And, even though it is considered an important part of general health and can affect the conduct of the service, quality of life, and combat readiness (SKEC et al., 2006; KUDO et al., 2011),the oral health of soldiers on board remains poorly characterized.

Self-perceived oral health status includes subjective measures that reflect the individual's assessment of their oral health status and need for treatment (MATTHIAS et al., 1995). From a practical point of view, it has an impact on the use of dental services, as it is considered a predictor of frequency for seeking care (GILBERT et al., 1994; GILBERT, 1994; MATTHIAS et al., 1995). This study aims to report the experience of the impact of self-perceived oral health on the quality of life of military on board.

## **2 STRESS**

The military career, due to the specificity of the work, is named as exhausting and causing high levels of stress, not only for the participation in operational missions but for the execution of internal activities. (VILHENA, 2005).

Participation in peacekeeping missions has been linked to a set of consequences for the health and well-being of the military personnel, because of likely stressors such as isolation, ambiguity, lack of power/feeling of powerlessness, boredom/routine, danger, and workload. In addition, internal activities related to the security of military units can also generate fatigue and personal wear and tear, due to the requirement that the military personnel remains armed for 24 hours (BARTONE, 2012).

In general, military activities have been directly linked to a wide variety of physical and psychological symptoms, the most studied being post-traumatic stress (SOUZA, 2011). In a study with Thai soldiers, stress and anxiety were considered the second biggest reason that would affect the quality of life and generate some type of disturbance during service (SUTTHAVONG; UKRITCHON; RANGSIN, 2014). Furthermore, in a study with Brazilian Army military personnel in which a specific scale was used to measure stress (Brazilian version of Perceived Stress Scale – PSS-14), it was concluded that the military involved in special peace missions did not perceive themselves in a more stressful reality than the military population in internal activities, demystifying the concept that even under adverse conditions, the military personnel would perceive them as stressors (BARROS et al., 2018).

In addition to the psychological effects, stress can have a biological impact on the endocrine and autoimmune system of individuals, is considered a risk factor for numerous chronic diseases, such as cardiovascular disease, diabetes, and

obesity (RUTTERS et al., 2014; 2015; HACKETT, 2016; KIVIMÄKI; STEPTOE, 2017). Due to the new classification of periodontal conditions and diseases, emotional stress and depression are part of the group of systemic disorders that influence the pathogenesis of periodontal diseases (JEPSEN et al., 2018). It has been reported that professionals in the military area have high rates of both stress and temporomandibular disorders, suggesting a positive association between the two pathologies (SATO; VENEZIAN, 2019).

### **3 ORAL HEALTH**

The definition of health by the World Health Organization (WHO) is not restricted to the absence of diseases or injuries, and therefore, its measurement must consider several dimensions involved, including the repercussions of health problems in the daily lives of individuals (CASTRO; PORTELA; LEÃO, 2007).

Concerning oral health, it was historically evaluated using exclusively clinical criteria, which did not allow us to determine the full impact of oral health conditions on the individual's quality of life. However, in recent decades, oral health has also been measured through specific instruments, developed to measure how changes in oral health compromise the quality of life and well-being of individuals (JOKOVIC et al., 2002; CASTRO; PORTELA; LEÃO, 2007).

Studies on the impact of oral health on the physical readiness of military personnel are sporadic (VOELKER et al., 2002; RICHARDSON et al., 2008), however, it is known that the establishment of good oral health in this target population can reduce the number of emergency dental interventions and, thus, avoid absences from training and ongoing battles (SKEC et al., 2006). In addition, incorrect assessment of the oral health of military personnel can reduce the effectiveness of the military unit and cause human risks and financial expenses, for example, due to the transport of soldiers to health care posts. (BRAJDIĆ et al., 2006).

In the Thai military, oral condition and related factors that could affect personal readiness were assessed from questionnaires and it was concluded that toothache and dentin sensitivity were among the most common oral problems. In addition, most military personnel admitted that oral problems affected more the quality of life and performance in the service than other factors such as sleep deprivation and technical skill for the service (SUTTHAVONG; UKRITCHON; RANGSIN, 2014).

#### **4 SELF-PERCEPTION OF ORAL HEALTH**

In the work environment, self-perception of oral health has a unique value concerning the quality of life, since people's behavior is conditioned by their perceptions and the importance given to them (HAIKAL et al., 2011).

A study conducted on Croatian military personnel, during periodic annual evaluation, sought to determine the predictive value of dental readiness on oral health-related quality of life. A specific questionnaire was applied to measure the physical, psychological, and social impacts of oral conditions (Oral health impact profile – OHIP-14), and a direct and positive relationship was found between a satisfactory dental condition and the quality of life recognized from the self-perception of oral health. Furthermore, it was concluded that patients with better oral conditions were among the youngest and those with less time of military service, which can be explained by the initial motivation that admission and participation in peace missions can generate in the military personnel (SPALJ et al., 2012).

#### **5 EXPERIENCE REPORT**

The Annual Midshipmen Training Cruise (MTC) aims to complement, with an emphasis on practical experience, the theoretical knowledge acquired by the military personnel at the Naval School during the school cycle, improve the cultural background of future Brazilian Navy officers and represent the country and the Navy in the various ports visited, promoting closer ties of friendship with friendly nations.

On board, the Brazilian Training Ship (NE Brasil), in 2019, 227 aspirants from the Naval School and 259 military members of the crew, including 31 officers and 228 soldiers and civil servants, visited, over five months, 14 countries and experienced some of the challenges inherent in a military career.

During the XXXIII MTC, self-perceived oral health was assessed in the population of military personnel on board, following the principles of the Declaration of Helsinki, and after approval by the Research Ethics Committee of the Hospital Naval Marcílio Dias (protocol:10751419.8.0000.5256/2019).

The application of the OHIP-14 was carried out in two moments: the beginning and end of the trip. The overall mean revealed worsening of the midshipmen's self-perceived oral health after the five-month commission period. The same was not

observed with the crew. The OHIP-14 is a questionnaire used to assess the adverse impact caused by oral conditions on the well-being and quality of life of individuals. The version validated for Brazil was used (ALMEIDA; LOUREIRO; ARAÚJO, 2015). All OHIP-14 questions start with: "Because of problems in your mouth, in the last month", comprising 14 items. The assessment is done through an ordinary scale with scores ranging from 0 to 4, with answers indicating more problems generating the highest scores. The maximum possible score is 56 points.

The items that make up this questionnaire were evaluated separately and their sums were compared between the beginning and the end of the trip.

"Because of problems in your mouth, in the last month: ", "Did you feel that the taste of food has gotten worse?" and "Did you get upset with people?" these were items whose response worsened after the commission period, for both the midshipmen and the crew. Among the aspirants, in addition to these, another five items, which also measure the physical, psychological and social impacts of oral conditions, had worse values at the end of the MTC, namely: "In the last month, because of problems with their teeth or your mouth:" "Were you worried?", "Did you feel nervous?", "Was your diet impaired?", "Did you find it difficult to rest?" and "Were you embarrassed?"

The percentage variation of the OHIP scores was calculated using the formula: final score subtracted from the initial score, multiplied by 100, divided by the initial score. Thus, the significant impact that the routine on board had on the self-perceived oral health of the midshipmen and the crew became clear (Tables 1 and 2).

**Table 1 - Variation of the mean of the scores of the Oral Health Impact Profile (OHIP-14) applied to Naval School aspirants**

| Aspirants                                                             |           |         |
|-----------------------------------------------------------------------|-----------|---------|
| Questions                                                             | Variation | p       |
| In the last month, because of problems with your teeth or your mouth: |           |         |
| Did you have trouble speaking a word?                                 | +35%      | 0,27    |
| Did you feel that the taste of food has gotten worse?                 | +157%     | 0,02*   |
| Did you feel pain in your mouth or teeth?                             | +9%       | 0,69    |
| Did you feel uncomfortable when eating some food?                     | +26%      | 0,11    |
| Did you get worried?                                                  | +45%      | 0,01*   |
| Did you feel nervous?                                                 | +57%      | 0,005*  |
| Has your diet been impaired?                                          | +61%      | 0,01*   |
| Did you have to stop your meals?                                      | +56%      | 0,61    |
| Did you find it difficult to rest?                                    | +44%      | 0,03*   |
| Did you get embarrassed?                                              | +107%     | 0,005*  |
| Did you get upset with people?                                        | +133%     | ≤0,001* |
| Did you find it difficult to do your daily tasks?                     | +36%      | 0,15    |
| Did you feel your life got worse?                                     | +20%      | 0,34    |
| Have you failed to do your daily tasks?                               | +117%     | 0,03*   |

Value of p\*: significance levels ≤ 0,05; Mann–Whitney U test for numerical variables.

Source: THE AUTHORS, 2020.

**Table 2 - Variation of the mean of the scores of the Oral Health Impact Profile (OHIP-14) applied to the crew**

| Crew                                                                  |           |       |
|-----------------------------------------------------------------------|-----------|-------|
| Questions                                                             | Variation | p     |
| In the last month, because of problems with your teeth or your mouth: |           |       |
| Did you have trouble speaking a word?                                 | -5%       | 0,84  |
| Did you feel that the taste of food has gotten worse?                 | +161%     | 0,01* |
| Did you feel pain in your mouth or teeth?                             | -16%      | 0,35  |
| Did you feel uncomfortable when eating some food?                     | -4%       | 0,82  |
| Did you get worried?                                                  | -15%      | 0,31  |
| Did you feel nervous?                                                 | +1%       | 0,96  |
| Has your diet been impaired?                                          | +48%      | 0,15  |
| Did you have to stop your meals?                                      | -31%      | 0,26  |
| Did you find it difficult to rest?                                    | +22%      | 0,37  |
| Did you get embarrassed?                                              | +3%       | 0,91  |
| Did you get upset with people?                                        | +64%      | 0,04* |
| Did you find it difficult to do your daily tasks?                     | +8%       | 0,76  |
| Did you feel your life got worse?                                     | +10%      | 0,84  |
| Have you failed to do your daily tasks?                               | -20%      | 0,40  |

Value of p\*: significance level  $\leq 0,05$ ; Mann-Whitney U test for numerical variables.

Source: THE AUTHORS, 2020.

## 6 STRATEGIES

The results of the experience aboard the Brazilian training ship for the XXXIII MTC can be a tool for the development of programs and/or strategies that are per the definition adopted by the Navy General Staff (EMA) for competency management: "The set of knowledge, skills, and technologies that allow the fulfillment of the Brazilian Navy's constitutional mission in the long term". In this context, Health Management is defined as the ability to look ahead and predict the future (strategic planning), adapt to changes (manage changes) and constantly monitor and evaluate the performance of the system. It includes using criteria to allocate resources and

choosing strategies to achieve health gains with equity (BRASIL, 2013). It is expected, therefore, that the strategies favor adaptive coping with problems, and provide a better quality of life associated with oral health, thus avoiding a negative impact on the health of the military. Among the suggested strategies:

- **Inclusion of the military in a physical activity program on board**, whether individual or in groups, covering physical exercise, weight training, recreation, leisure, body relaxation, compensatory exercises for work, and daily activities, among other modalities. The practice of sports favors the development of education and health, contributing to the reestablishment of adequate levels of performance and physical health of the military personnel and contributing to the quality of life on board, the prevention of diseases, accidents, and postural problems, the compensation of disturbances functional, as well as autonomy, self-esteem, integration, and social relationships. There is scientific evidence that the reduction in the prevalence of periodontal disease, the reduction of inflammatory cytokines, and the promotion of periodontal health are some benefits of the practice of physical activity (FERREIRA et al., 2019). The peculiar characteristics of each ship will dictate how the sport will be practiced on board, whether functional exercises in the flight, simple aerobic exercises such as jumping rope, pedaling, running, dancing, climbing stairs, walking on the treadmill or weight training with the use of training means (dumbbells, bars, equipment that offer mechanical load, etc.);
- **Expansion of the training of the health team and technical qualification and awareness of chiefs/guards to welcome the military personnel**, implying the qualified and humanized listening of the military population to their complaints, the recognition of their autonomy and protagonism in the health and illness process and their accountability for the resolution (BRASIL, 2004). Ensuring the response to the needs of those who seek health services or guidance with heads/guards must be an ethical attitude encouraged on board, since welcoming, as an act of approximation and sharing of knowledge and anxieties, does not presuppose a specific time or professional to do it. Group

meetings, individual conversations, and willingness to readily listen to the military, without judgment, are examples of how to make welcoming a daily practice on board;

- **Provision of religious assistance for spiritual support on board**, guaranteeing the right to exercise the faith of religiosities to the military personnel, regardless of belief. The practice of religious activities benefits health and influences behaviors that lead to an improvement in the quality of life related to oral health (MENEGAZZO et al., 2018). Furthermore, religious assistance helps in coping with difficult situations and allows the re-socialization of soldiers who face the period of the trip with resistance, as they are forced to move away from family and social life due to the characteristics of the commission. Such assistance must be multiform, that is, of as many creeds as those requested by the military and may include the celebration of evangelical and Spiritism cults, masses, and ecumenical meetings;
- **Positive reinforcement to the military regarding the ship's mission** (BARTONE, 2012), valuing the individual and collective work presented by the crew during the arduous preparation of the Ship for the midshipmen training cruise and after the second phase of the post-school cycle of the class of marine guards who have recently graduated from the Naval School. The ship's mission is to provide practical instruction to the midshipmen and to display the flag when traveling abroad, to contribute to the professional and cultural training of future officers, and to strengthen ties with friendly nations. Pride of the ship and esprit de corps are values that must guide this reinforcement;
- **Social and corporate events on board** as a way to strengthen the relationship with the crew and nurture the motivation of the military personnel, keeping them engaged, productive, and well connected with their peers. The event policy, with the provision of entertainment and sports activities to the military population during modern military operations, can prevent the emergence of stressful elements (BARTONE, 2012) and thus leverage the satisfaction of the military personnel, strengthening the team spirit and improving the quality

of the organizational climate. Commemorative parties, get-togethers, birthday celebrations, barbecues, contests, or more personalized actions are integration actions that can be adapted according to the possibility of each ship;

- **Adequacy of place on board for oral hygiene**, allowing the military personnel to create a routine for brushing teeth. It is advised that the practice of brushing must always be done in front of the mirror, consciously and responsibly, monitoring the movements of the brush on the tooth surface and dedicating adequate time, on average two minutes, to the activity (HAJISHENGALLIS; CHAVAKIS; LAMBRIS, 2020). The environment intended for hygiene must have appropriate lighting, to make up for the absence of natural light; it must have a mirror in an adequate size for its functionality to be met; and contain accessory devices for better organization and practicality of the space, such as for example, a container for paper towels, liquid soap, gel alcohol, and dental floss;
- **Periodic oral hygiene instruction on boardis** provided by a dentist to raise awareness among the military population. This theoretical and practical procedure will provide the military personnel with a basic understanding of several topics, including the prevention of oral diseases, tooth brushing techniques, available devices for oral hygiene, and auxiliary methods of plaque control. In addition, this action has an educational nature, in the sense of motivating the military population to change habits and behaviors, supporting them in achieving their autonomy to carry out correct oral hygiene (BRASIL, 2015). How oral hygiene instruction can be provided on board can range from demonstrations on models, holding lectures, posting information, showing videos to delivering information leaflets, with due attention being paid to the need and the psychomotor condition of the military personnel; and

- **Increment of the welcome kit delivered on board** with the inclusion of oral hygiene devices and informational leaflets on oral health. The welcome kit, in addition to an instrument for integrating the military population with the ship, can act as a strategy to encourage the adoption of healthy practices on board and for the patient to seek autonomy with a view to self-care (BRASIL, 2015). The inclusion of a toothbrush, cream, and dental floss brings the possibility of applying, in practice, the simple and quick guidelines provided by leaflets on oral health and of making a difference in the well-being and health of the military personnel.

## 7 CONCLUSIONS

This experience revealed that self-perception of oral health impacted the quality of life of on-board military personnel. Knowledge of the repercussions of oral health on the physical readiness and quality of life of military personnel must be considered, as emotional and physiological changes, caused by stressful factors, can be observed in the work environment.

From the inference that the self-perception of oral health of the military was impaired with the routine on board, the implementation of specific strategies to mitigate the negative impacts on the health of the military, even if it is dependent on the peculiar characteristics of each ship, can favor the adaptive coping with problems and, consequently, provide a better quality of life associated with oral health.

## REFERENCES

ALLEN, F. W.; SMITH, B. E. Impact of dental sick call on combat effectiveness: the dental fitness class 3 soldier. *Military medicine*, v. 157, n. 4, p. 200-203, 1992. DOI: 10.1093/milmed/157.4.200.

ALMEIDA, A.; LOUREIRO, C.; ARAÚJO, V. Um estudo transcultural de valores de saúde bucal utilizando o instrumento OHIP-14 (Oral Health Impact Profile) na forma simplificada-Parte I: Adaptação cultural e lingüística. *Revista Brasileira de Pesquisa em Saúde/Brazilian Journal of Health Research*, v. 6, n. 1, p. 6-15, 2015.

AMSTUTZ, R. *A survey of dental emergencies among U.S. Army active duty personnel*. Directorate of Health Care Studies and Clinical Investigation, 1993. p. 63.

BARROS, J. R. A. et al. Percepção de estresse e resiliência em militares em missão no Haiti. *Revista Silva – Humanidades em Ciências Militares*, v. 2, n. 1, 2018.

BARTONE, P. T. Social and organizational influences on psychological hardiness: how leaders can increase stress resilience. *Security Informatics*, v. 1, n. 21, 2012. DOI: 10.1186/2190-8532-1-21.

BISHOP, B. G.; DONNELLY, J. C. Proposed criteria for classifying potential dental emergencies in department of defense military personnel. *Military medicine*, v. 162, n. 2, p. 130-135, 1997.

BRAJDIĆ, D. et al. Impact of dental emergencies on combat readiness in Croatian Army. *Acta Med Croatica*, v. 60, n. 4, p. 341-345, 2006.

BRASIL. Ministério da Saúde. *Política Nacional de Humanização*. 2004. Disponível em: [http://portal.saude.gov.br/portal/saude/cidadao/area.cfm?id\\_area=1342](http://portal.saude.gov.br/portal/saude/cidadao/area.cfm?id_area=1342).

BRASIL. *Política Assistencial para o Sistema de Saúde da Marinha (PASSM)*. Rio de Janeiro, 2013.

BRASIL. Diretoria de Saúde da Marinha. DSM-2006 – *Manual dos Programas de Saúde da Marinha*. Rio de Janeiro, 2015.

CASTRO, R. A. L.; PORTELA, M. C.; LEÃO, A. T. Adaptação transcultural de índices de qualidade de vida relacionada à saúde bucal. *Cad Saúde Pública*. Rio de Janeiro, v. 23, n. 10, p. 2275-2284, out. 2007. DOI: 10.1590/S0102-311X2007001000003.

CHAFFIN, J.; MOSS, D. Review of current U.S. Army dental emergency rates. *Military medicine*, v. 173, n. 1, p. 23-26, 2008. DOI: 10.7205/milmed.173.supplement\_1.23.

DUNN, W. J. et al. Dental emergency rates at two expeditionary medical support facilities supporting operations enduring and Iraqi freedom. *Military medicine*, v. 169, n. 7, p. 510-514, 2004. DOI: 10.7205/milmed.169.7.510.

FERREIRA, R.O. et al. Physical activity reduces the prevalence of periodontal disease: systematic review and meta-analysis. *Front Physiol*, v. 10, p. 234, 2019. DOI: 10.3389/fphys.2019.00234.

GILBERT, G. H. et al. Perceived need for dental care in dentate older adults. *Int Dent J*, v. 44, n. 2, p. 145-152, 1994.

GILBERT, L. Social factors and self-assessed oral health in South Africa. *Community Dentistry and Oral Epidemiology*, v. 22, n. 1, p. 47-51, 1994. DOI: 10.1111/j.1600-0528.1994.tb01568.x.

GOMES, D. F. S.; BELÉM, A. O.; TELES, S. S. Saúde mental de militares: uma revisão integrativa do cenário brasileiro. *Rev Saúde Públ Santa Cat*, v. 7, n. 3, p. 88-102, 2014.

HACKETT, R. A.; STEPTOE, A. Psychosocial factors in diabetes and cardiovascular risk. *Current cardiology reports*, v. 18, n. 10, p. 95, 2016. DOI: 10.1007/s11886-016-0771-4.

HAIKAL, D. S. et al. Autopercepção da saúde bucal e impacto na qualidade de vida do idoso: uma abordagem quanti-qualitativa. *Ciência & Saúde Coletiva* [online], v. 16, n. 7, p. 3317-3329, 2011. DOI: 10.1590/S1413-81232011000800031.

HAIJSHENGALLIS, G.; CHAVAKIS, T.; LAMBRIS, J.D. Current understanding of periodontal disease pathogenesis and targets for host-modulation therapy. *Periodontology 2000*, v. 84, n. 1, p. 14-34, 2020. DOI: 10.1111/prd.12331.

HESPANHOL, A. Burnout e stress ocupacional. *Revista Portuguesa de Psicossomática*, v. 7, n. 1-2, p. 153-162, 2005.

JEPSEN, S. et al. Periodontal manifestations of systemic diseases and developmental and acquired conditions: consensus report of workgroup 3 of the 2017 world workshop on the classification of periodontal and peri-implant diseases and conditions. *Journal of Clinical Periodontology*, v. 89, n. 1, p. 237-248, 2018. DOI: 10.1002/JPER.17-0733.

JOKOVIC, A. et al. Validity and reliability of a questionnaire for measuring child oral-health-related quality of life. *Journal of Dental Research*, v. 81, n. 7, p. 459-63, 2002. DOI: 10.1177/154405910208100705.

KIVIMÄKI, M.; STEPTOE, A. Effects of stress on the development and progression of cardiovascular disease. *Nature Reviews Cardiology*, v. 15, n. 4, p. 215-229, 2017. DOI: 10.1038/nrcardio.2017.189.

KUDO, Y. et al. Oral health in the Japan self-defense forces – a representative survey. *BMC Oral Health*, v. 11, n. 1, p. 14, 2011. DOI: 10.1186/1472-6831-11-14.

LIMA, T. C. et al. Resiliência militar: adaptação da escala CD-RISC 25 para mensuração em Cadetes da Academia das Agulhas Negras – AMAN. *International Stress Management Association*, v. 3, p. 12-22, 2017.

MARKER O. T.; VIGILD, M.; PRAETORIUS, F. Oral health problems and treatment needs in Danish military personnel recruited for United Nations Service. *Military medicine*, v. 162, n. 6, p. 416-421, 1997. DOI: 10.1093/milmed/162.6.416.

MATTHIAS, R. E. et al. Factors affecting self-ratings of oral health. *Journal of Public Health Dentistry*, v. 55, n. 4, p. 197-204, 1995. DOI: 10.1111/j.17527325.1995.tb02370.x.

MENEGAZZO, G.R. et al. Family religiosity and oral health related quality of life: a multilevel analysis in Brazilian schoolchildren. *Braz. Dent. J.*, Ribeirão Preto, v. 29, n. 4, p. 381-387, 2018. DOI: 10.1590/0103-6440201801965.

PERKINS V. *Stress: o ponto de ruptura*. São Paulo: Jovens Médicos. 1995.

RICHARDSON, J. D. et al. Posttraumatic stress disorder and health-related quality of life among a sample of treatment-and pension-seeking deployed Canadian forces peacekeeping veterans. *The Canadian Journal of Psychiatry*, v. 53, n. 9, p. 594-600, 2008. DOI: 10.1177/070674370805300906.

ROSSETTI, M. O. et al. O inventário de sintomas de stress para adultos de lipp (ISSL) em servidores da polícia Federal de São Paulo. *Revista Brasileira de Terapias Cognitivas*, v. 4, p. 108-120, 2008. DOI: 10.5935/1808-5687.20080018.

ROTHFUSS, L. G. et al. Staffing model for dental wellness and readiness. *Military medicine*, v. 169, n. 8, p. 604-608, 2004. DOI: 10.7205/MILMED.169.8.604.

RUTTERS, F. et al. The association between psychosocial stress and mortality is mediated by lifestyle and chronic diseases: the hoorn study. *Social Science & Medicine*, v. 118, p. 166-172, 2014. DOI: 10.1016/j.socscimed.2014.08.009.

RUTTERS, F. et al. Stressful life events and incident metabolic syndrome: the hoorn study. *Stress*, Amsterdam, Netherlands, v. 18, n. 5, p. 507-513, 2015. DOI: 10.253890.2015.1064891.

SATO, L. Y. M.; VENEZIAN, G. C. Associação da disfunção temporomandibular e estresse em militares. *Rev Nav Odontol*, v. 46, n. 1, p. 48-52, 2019. DOI: 10.29327/25149.46.1-8.

SKEC, V. et al. Influence of oral hygiene on oral health of recruits and professionals in the Croatian Army. *Military medicine*, v. 171, n. 10, p. 1006-1009, 2006. DOI: 10.7205/milmed.171.10.1006.

SOUZA, W. F. *Estudo prospectivo do impacto da violência na saúde mental das tropas de paz brasileiras no Haiti*. Tese (Doutorado em Saúde Pública) – Escola Nacional de Saúde Pública Sergio Arouca, Fundação Oswaldo Cruz, Rio de Janeiro, 2011.

SPALJ, S. et al. Predictive value of dental readiness and psychological dimensions for oral health-related quality of life in Croatian soldiers: a cross-sectional study. *Croat Med J*, v. 53, n. 5, p. 461-469, 2012. DOI: 10.3325/cmj.2012.53.461.

SUTTHAVONG, S.; UKRITCHON, S.; RANGSIN, R. Oral health survey of the military personnel deployed to the southernmost provinces of Thailand. *Journal of the Medical Association of Thailand = Chotmai het thangphaet*, v. 97, n. 2, p. 60-67, 2014.

TEWELES, R. B.; KING, J. E. Impact of troop dental health on combat readiness. *Military medicine*, v. 152, n. 5, p. 233-235, 1987. DOI: 10.1093/milmed/152.5.233.

VILHENA, C. P. *Resiliência em contexto militar*. Dissertação (Mestrado e, Psicologia) – Faculdade de Psicologia e Ciências da Educação, Universidade do Porto, 2005.

VOELKER, M. D. et al. Health-related quality of life in gulf war era military personnel. *American Journal of Epidemiology*, v. 155, n. 10, p. 899-907, 2002. DOI: 10.1093/aje/155.10.899.