Importance of Dental Readiness in Military Professional

Capt (Dr) Tengku Natasha Eleena bt Tengku Ahmad Noor, BDS., MFDS RCS (Ed)
Dental readiness refers to a service personnel’s dental health as it relates to his worldwide deployment status and is fundamental in maintaining unit readiness and reducing non-combat casualties during deployment. Sub-optimal levels of dental readiness will increase mobilization time, interfere with unit training and detract from forces’ readiness.

Orofacial pain during training or deployment may have negative impact to combat readiness and eventually impedes the overall performances of the unit. Orofacial pain especially toothache is preventable through routine examination and scheduled treatment before deployment.

-AFMeCS, 2021
Royal Medical and Dental Corps (RMDC) Mission: To conserve the fighting strength of MAF through maintenance of health, prevention of diseases and care of the sick and wounded. Health contributes directly to military readiness. A high state of health gives troops the fitness to fight, and thus medically ready to deploy.
WHY?

NON-COMBAT DUTY

Personal appearance is important—it demonstrates the pride, character and self-discipline as a soldier. Uniforms and decorations are only part of the appearance. To look like a soldier, it is needed to be physically and mentally fit to present a warrior look.

COMBAT DUTY

The importance of soldiers being able to fight without experiencing dental problems as well as reducing the risk of dental problems during military operations or mission deployment.
1950
6.5 percent of the replacements in a field artillery battalion needed emergency dental treatment upon arrival, and another 43 percent required urgent treatment of advanced dental conditions.

Korean War

1991
Operation Desert Shield and Storm. A large number of Reserve and Guard soldiers had to have extensive dental work completed to prepare them for deployment to the Persian Gulf.

1955
Excluding injuries, dental complaints ranked second only to upper respiratory infections as a cause for lost duty time.

1950
Korean War
6.5 percent of the replacements in a field artillery battalion needed emergency dental treatment upon arrival, and another 43 percent required urgent treatment of advanced dental conditions.

1940
World War II
Most common complaint listed by soldiers in their letters home was the Army’s failure to replace their missing teeth prior to deployment.

1914
World War I
Gen Douglas Haig developed excruciating toothache at height of the Battle of Aisne that the cost of their absence was realised. No one was able to treat Haig and he was forced to await a French dental surgeon from Paris.

1853
Crimean War
soldiers being unable to bite through cartridge paper to load their weapons or to chew the hard biscuits and salted meat that were their daily rations.

1880
Boer War
>5,000 soldiers needed to be returned to the United Kingdom because they were unable to eat their “iron rations.”

1914
World War I

1955
Vietnam War

1950
Korean War

1940
World War II

1955
Vietnam War
Excluding injuries, dental complaints ranked second only to upper respiratory infections as a cause for lost duty time.

1914
World War I

1853
Crimean War

Source:
MILITARY EXPERIENCE
ABSTRACT

Introduction Periodontal disease ranges from simple gums inflammation to major damage to the periodontal tissues, even losing teeth. Severe periodontitis has a world overall prevalence of 11.2%. These are evaluated with periodontal probes and oral epidemiological indices. Our aim is to estimate the prevalence and severity of periodontal disease of a Spanish military population according to the 2013 WHO criteria.

Methods Observational study of prevalence carried out in a representative random sample of 221 military staff from the Spanish Army base ‘Conde de Gazola’. Prevalence was estimated by calculating the Community Periodontal Index modified, loss of attachment, Plaque Index and Gingival Bleeding Index measured with a third-generation electronic ‘Pa-on’ periodontal probe.

Results Averages of probing depth, recession and clinical attachment level were 2.17, 0.19 and 2.36 mm. Plaque and gingival bleeding indices were 71% and 40.3%. All subjects bled in some tooth after probing. 3.6% of subjects had no periodontal pockets, 58.8% mild periodontal pockets and 37.1% severe periodontal pockets. All had some loss of attachment, 52% mild loss of attachment and 47.5% severe loss of attachment. Teeth present with and without bleeding were 24.4 (86.5%) and 3.6 (13.1%). 28% of teeth had periodontal pockets and 40.4% loss of attachment. Sextant averages with periodontal pockets and loss of attachment were 2.79 and 3.56.

Conclusions Our plaque and gingival bleeding indices were high and we found a higher prevalence and severity of periodontal disease than other Spanish and foreign military populations. This could be related to differences in context, life habits and insufficient dental hygiene.
Oral health behaviors and dental caries in a sample of Portuguese militaries

Luis Azevedo¹*, David Martins², Joana Fialho³, Nélia Veiga⁴, André Correia⁵,⁶

¹ Institute of Health Sciences, Universidade Católica Portuguesa, Viseu, Portugal
² CI&DETS, Polytechnic Institute of Viseu, Viseu, Portugal
³ Center for Interdisciplinary Research in Health (CIES), Universidade Católica Portuguesa, Viseu, Portugal

Objectives: To determine the prevalence of dental caries and oral health behaviors in a sample of the Portuguese army.

Methods: An observational cross-sectional study was conducted in a sample of army soldiers of the Infantry Regiment no. 14 of Viseu, Portugal, using a questionnaire. The study involved 122 members of the armed forces, who were asked to complete a questionnaire autonomously. The questionnaire enquired about general oral-health behaviors but focused mainly on: i) frequency of toothbrushing, ii) use of dental floss and iii) frequency of dental appointments. It also asked about sociodemographic information, like age and gender. An intra-oral observation was also conducted to determine the DMFT index and to record dental plaque based on the Silness and Löe plaque index (1964).

Results: The prevalence of dental caries was high (51.6±7.4%; DMFT of 4.6±3.5). The most prevalent score of the Silness and Löe plaque index was score 2 - visible plaque (58.2%). Regarding oral hygiene habits, most of the sample reported brushing their teeth at least twice a day (65.6%) and using fluoride toothpaste (64.8%). However, very few participants (18%) used dental floss. More than 30% of the participants had not visited a dentist within the previous year. Furthermore, 45.9% were current smokers.

Conclusion: Prevention programs and promoting actions for oral health with these specific groups are important and should be adopted to reduce the prevalence of dental caries and to increase the knowledge about oral-health behaviors. (Rev Port Estomatol Med Dent Cir Maxilofac. 2018;59(1):18-23)
### Characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>No (%)</th>
<th>Yes (%)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>12 (66.7)</td>
<td>113 (94.2)</td>
<td>0.002</td>
</tr>
<tr>
<td>Female</td>
<td>6 (33.7)</td>
<td>7 (5.8)</td>
<td></td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malay</td>
<td>5 (27.8)</td>
<td>41 (34.2)</td>
<td>0.592</td>
</tr>
<tr>
<td>Non-Malay</td>
<td>13 (72.2)</td>
<td>79 (65.8)</td>
<td></td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>6 (33.3)</td>
<td>25 (20.8)</td>
<td>0.236</td>
</tr>
<tr>
<td>Not married</td>
<td>12 (67.7)</td>
<td>95 (79.2)</td>
<td></td>
</tr>
<tr>
<td><strong>Level of education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>11 (61.1)</td>
<td>81 (67.5)</td>
<td>0.592</td>
</tr>
<tr>
<td>High</td>
<td>7 (38.9)</td>
<td>39 (32.5)</td>
<td></td>
</tr>
<tr>
<td><strong>Military rank</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Officer</td>
<td>3 (16.7)</td>
<td>20 (16.7)</td>
<td>1.000</td>
</tr>
<tr>
<td>Subordinates</td>
<td>15 (83.3)</td>
<td>100 (83.3)</td>
<td></td>
</tr>
<tr>
<td><strong>Service</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soldier</td>
<td>12 (66.7)</td>
<td>73 (60.8)</td>
<td>0.610</td>
</tr>
<tr>
<td>Navy</td>
<td>6 (33.3)</td>
<td>41 (34.2)</td>
<td></td>
</tr>
<tr>
<td>Air force</td>
<td>0 (0.0)</td>
<td>6 (5.0)</td>
<td></td>
</tr>
<tr>
<td><strong>Frequency of tooth brushing a day</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than twice</td>
<td>2 (11.1)</td>
<td>2 (1.7)</td>
<td></td>
</tr>
<tr>
<td>At least twice</td>
<td>16 (88.9)</td>
<td>118 (98.3)</td>
<td></td>
</tr>
<tr>
<td><strong>Changing toothbrush</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In 3 months</td>
<td>7 (38.9)</td>
<td>40 (33.3)</td>
<td>0.643</td>
</tr>
<tr>
<td>More than 3 months</td>
<td>11 (61.1)</td>
<td>80 (66.7)</td>
<td></td>
</tr>
<tr>
<td><strong>Flossing</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>11 (61.1)</td>
<td>99 (82.5)</td>
<td>0.035</td>
</tr>
<tr>
<td>Yes</td>
<td>7 (38.9)</td>
<td>21 (17.5)</td>
<td></td>
</tr>
<tr>
<td><strong>Mouth rinse</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>7 (38.9)</td>
<td>55 (45.8)</td>
<td>0.581</td>
</tr>
<tr>
<td>Yes</td>
<td>11 (61.1)</td>
<td>65 (54.2)</td>
<td></td>
</tr>
<tr>
<td><strong>Visiting dental annually</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>2 (11.1)</td>
<td>33 (27.5)</td>
<td>0.136</td>
</tr>
<tr>
<td>Yes</td>
<td>16 (88.9)</td>
<td>87 (72.5)</td>
<td></td>
</tr>
<tr>
<td><strong>Smoking status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>11 (61.1)</td>
<td>33 (27.5)</td>
<td>0.011</td>
</tr>
<tr>
<td>Current</td>
<td>3 (7.8)</td>
<td>57 (47.5)</td>
<td></td>
</tr>
<tr>
<td>Former</td>
<td>4 (4.4)</td>
<td>20 (16.6)</td>
<td></td>
</tr>
<tr>
<td><strong>Alcohol intake</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>17 (94.4)</td>
<td>103 (85.8)</td>
<td>0.312</td>
</tr>
<tr>
<td>Yes</td>
<td>1 (5.6)</td>
<td>17 (14.2)</td>
<td></td>
</tr>
</tbody>
</table>

### Periodontal status

<table>
<thead>
<tr>
<th>Periodontal status</th>
<th>Mean (SD)</th>
<th>N (%)</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plaque index</td>
<td>1.82 (0.64)</td>
<td>1 (0.7)</td>
<td>0 to 2.2</td>
</tr>
<tr>
<td>Healthy</td>
<td></td>
<td>76 (55.1)</td>
<td>46.4 to 63.8</td>
</tr>
<tr>
<td>Gingival bleeding</td>
<td>17 (12.3)</td>
<td>7.2 to 17.4</td>
<td></td>
</tr>
<tr>
<td>Shallow pocket (4-5mm)</td>
<td>44 (31.9)</td>
<td>24.6 to 39.9</td>
<td></td>
</tr>
<tr>
<td>Deep pocket (≥6mm)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Assessment of Periodontal Health Status Among the Military Personnel Visiting Kuching Armed Forces Dental Clinic, Sarawak (2020). Tengku Ahmad Noor, TNE., Jaafar A., Ramli HO., Bahari ZF
Oral Health Status Among Adults With and Without Prior Active Duty Service in the U.S. Armed Forces, NHANES 2011-2014

Maj David K. Schindler, DC, USAF; Gabriela V. Lopez Mitnik, MS, MPhil; Lt Col Aida M. Soliván-Ortiz DC, USAF; Lt Col Scott P. Irwin DC, USAF; Shahdokht Boroumand, DMD, MPH; CAPT Bruce A. Dye, DC, USPHS (Ret.)

Military service may also increase the risk of oral diseases as it is often characterized by long deployments overseas in locations with limited access to preventive services, oral hygiene products, and comprehensive dental care. Chronic stress and fatigue from long working hours and combat can contribute to a reduction in self-care and oral hygiene habits, increased energy drink consumption and smoking, as well as increased risk for depression. Collectively,
Preventive-focused oral health that seamlessly integrates with wider prevention pathways across a range of lifestyle initiatives as well as awareness.

Enforcement of law with annual check ups and treatments for soldiers.

Resources or access to hygiene kit and dental facilities during operational or mission deployment.

Educating leaders to work as a team and to get the dental health consent on the fighting force.
OUR JOURNEY IN DENTAL READINESS

- DSMAF, 1967 became part of RMDC
- Active Dental Support (ADS) Concept
- Targeted ADS in every Division
- FORWARD ADS in Operations Area
- Compulsory Dental Check Up during PULHEEMS
- Program 3P (Promosi Pendidikan Pergigian)
- ICDAS and CRA
Targeted ADS in every Division
FORWARD ADS in Operations Area
Compulsory Dental Check Up during PULHEEMS

Quality

Degree

DRC

Class I: Dentally fit

Class II: Dentally unfit (Temporary) until treatment completed

Class III: Dentally unfit for deployment

OBJECTIVE

4. Pameranke pergiun berkla in aiat adlat l untuk:
   a. Menganalisis bukti data Khasanat Pervigian (Dental Peschness Classification (DRC)) setiap anggota.
   b. Memeriksa paukali anggota dari pasukan tempur, bantar tempur dan pasukan k sosial kesehatan, penyair, anggota jurnalis, dan pasukan yang terlibat dalam operasi pada tahap kesehatan pergiun yang baik sebelum masa adat darat Kesehatan Pergiun.

PELAKSANAAN


10. Pemeriksaan Pervigian. Pemeriksaan pervigian hampir dilaksanakan, selalu menjalani pemikamn pervigian TATADOMOT berkla. Tempat dan DRC secara anggota tertua adalah awal format. Tatabara pemikamn pervigian rataan seperti berkla:


ORAL HEALTH PROMOTION DURING 3P PROGRAM
Added Values

- Mobile CAT
- Dental Readiness Management System
- Oral health promotion posters
In the eyes of the public
We are known as a uniform body
With smart appearance
Shiny boots
Handsome looks
Muscular figure
However,
It will be useless
if we have no teeth
THANK YOU