

A PRELIMINARY REPORT ON THE PREVALENCE OF ORAL MUCOSAL LESIONS IN ARMY PERSONNEL IN JOHOR, MALAYSIA

ROSNAH BINTI ZAIN

Associate Professor,

*Department of Oral Pathology,
Oral Medicine & Periodontology,
Dental Faculty, University of Malaya
50603 Kuala Lumpur
Malaysia*

ABSTRACT

A study on 1013 army personnel based in Johor Bahru was conducted. The study includes an examination of the oral cavity and lips for the presence of oral mucosal lesions. It was found that the prevalences for many oral mucosal lesions in army personnel were small. Although the prevalences were small, lesions such as lichen planus in its severe forms can be further be aggravated by the serious physical and mental exposures of these personnels. Similarly, the detection of oral preleukoplakia and leukoplakia in army personnels is important as these may be considered precancerous. It was thus recommended that a thorough examination of the oral soft tissue be included in the routine dental examination carried out by the Armed Forces. Such inclusion would lead to early detection resulting in early treatment and a reduction in future loss of working time due to debilitation arising from the disease.

INTRODUCTION

A major oral health survey was conducted in Peninsular Malaysia involving 9,037 examinees from September 1974 - April 1975¹. In this survey, the prevalence of oral mucosal lesions were reported as that for oral cancer, oral precancer and abnormal soft tissue lesions. The rest of the survey dealt mainly with carious lesions. Many dental examinations in the Army are also geared towards dental caries. A recent report in the Dental Corps International on the usage of Modified DENTAP system for Assessments of Recruits' Fitness had also concentrated on the presence of caries and pocket depth² even though oral lesions in DENTAP is listed under the letter 'N' for NEOPLASM.

More current concepts on oral health now include the presence/absence of oral soft tissue lesions³. It is thus the purpose of this paper to report on the prevalence of oral mucosal lesions as found in army personnel in Johor Bahru, Malaysia.

MATERIALS AND PROCEDURES:

A total of 1013 army personnel based in Johor Bahru were examined using an examination mirror and a light source from a halogen lamp created to simulate the dental examination lamp used in the dental clinic. Examination of the oral cavity and lips were carried out. The criteria used for the oral mucosal lesions were similar to that used in Axell's study⁴ which was based on the WHO criteria⁵. Included in the survey was a questionnaire on oral habits namely cigarette smoking. A history within the last two years of recurrent aphthous ulcers and herpes labialis were also recorded.

RESULTS AND DISCUSSION

All the army personnel examined were males. Those examined consisted of 94.6% (958) Malays, 2.5% (25) Indians and 2.9% (30) other ethnic groups (e.g. Iban, Kadazan).

Their ages ranged from 19 to 49 years. Only 3 (0.3%) personnel were 19 years old. The majority of the personnel examined were within the age range of 20-29 years (695, 68.6%). There were 297 (29.3%) personnel examined in the 30-39 years age range. Only 18 (1.8%) personnel were above 40 years. There were more cigarette smokers (642, 63.4%) than nonsmokers (371, 36.6%). The prevalence of oral mucosal lesions are as tabulated in Table 1.

A very high prevalence of excessive melanin pigmentation (80.1%) was found. Such pigmentation could be associated with ethnic group and tobacco smoking habit. Positive correlation of the latter with oral melanin pigmentation had been shown by Axell and Hedin⁶, Hedin and Axell⁷ and Zain and Razak⁸.

The prevalence of recurrent aphthous ulcers (RAU) in this study was observed to be lower than other Malaysian studies^{9,10,11}. RAU had been associated with stress¹⁰. In

*Table 1. Prevalence of Oral Mucosal Lesions
in 1013 Army Personnel*

LESIONS	PREVALENCE (%)
White Lesions:	
1. Preleukoplakia & Leukoplakia	1.5
2. Lichen Planus	0.1
3. Leukoedema	6.1
4. Frictional Lesion	5.5
5. Smoker's Palate	0.7
6. Cheek & Lip Biting	0.6
Infections:	
1. Recurrent herpes labialis & history	0.5
2. Angular cheilitis	0.1
Ulcers:	
1. Recurrent aphthous ulcers & history	19.9
2. Traumatic ulcers	1.2
Denture related lesions:	
1. Denture sore mouth	3.1
2. Denture hyperplasia	0.2
Tongue lesions:	
1. Median rhomboid glossitis	0.3
2. Plicated tongue	0.8
3. Geographic tongue	0.1
4. Non-specific glossitis	0.3
Pigmentations:	
1. Excessive melanin pigmentation	80.1
2. Naevus	0.2
Tumourlike lesions:	
1. Mucocoele	0.1
2. Fibroepithelial polyp	0.2
Other lesion:	
1. Fordyce condition	40.3

the army set-up, stress among the personnel are expected. However, the low prevalence of RAU in this study may also be explained by the fact that there is an inverse relationship between RAU and tobacco smoking. This relationship had been shown by Axéll and Henricsson¹².

A prevalence of 1.5% for preleukoplakia and leukoplakia was recorded in this study. This is in close agreement with that found for 999 outpatients of a government dental clinic (1.3%) but was lower than that found in 233 outpatients at the Dental Faculty, University of Malaya (3.7%)¹⁰. The higher prevalence rate in the latter study maybe explained by the fact that the Dental Faculty, University of Malaya is a teaching institution with many specialities. There may be more patients with more specific problems attending such an institution. The ethnic composition of the two studies also differed where in this study, the majority examined were Malay, only 2.5% were Indians and no Chinese were examined. However in the other study¹⁰, there were only 54.1% Malays, 23.2% Chinese and 22.8% indians. The composition of Indians in the above mentioned study was very much higher than that of the present study and this may also be a factor contributing towards the high prevalence of preleukoplakia and leukoplakia in the latter study. A study by Hashim et al¹³ had also shown such high prevalence of oral precancerous lesions (24 out of 635 rubber tappers - 3.8%;) where his sample consisted of 51.8% Indians.

The prevalence of Fordyce condition in this study of 40.3% is lower than that found in 233 outpatients of the Dental Faculty, University of Malaya (61.8%)¹⁰. However, it is much higher than that found in 999 outpatients of an urban government clinic (19.8%)¹¹. This condition is an anatomical variation which should be recognized and not be mistaken for other lesions.

No oral cancer was detected in the army personnel. Only 1 personnel had lichen planus.

CONCLUSION

This study reported the presence of some oral mucosal lesions in army personnel based in Johor Bahru. Although in many cases the prevalence is small, its presence is significant because for some lesions such as RAU and lichen planus, the severe forms may lead to major discomfort which can be further aggravated by strenuous physical and mental exposures of these personnel. The detection of leukoplakia/preleukoplakia is also significant in view of the possibility of the development of a malignancy. Such early detection would aid in early treatment and thus reduces future loss of working time due to prevention of debilitation arising from the disease.

In summary, it is important for the Armed Forces Dental Services to also include a thorough oral soft tissue lesion

examination for early detection of disease and their early treatment and prevention in army personnel.

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Address for correspondence:

ASSOC. PROF. ROSNAH ZAIN

Dental Faculty,

University of Malaya

50603 Kuala Lumpur

Malaysia