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ORIGINAL ARTICLE

Oral Health Status of the Professional Soccer Players in Thailand

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ABSTRACT

Objectives: To evaluate the oral health status of the professional soccer players in Thailand. **Methods:** Twenty-five Thailand professional soccer players' oral conditions were examined and included in this study. DMFT, Quigley & Hein plaque index (PI), Löe & Silness gingival index, World Health Organization malocclusion index, pocket depth, TMJ examination and history of dental trauma were recorded. **Results:** The results demonstrated poor oral health level including dental caries (84%), DMFT score mean was 10.08, dental attrition (60%) and periodontal pocket (36%). Thirty percent of all players presented bruxism. More than 40% of athletes were bothered by their oral health with 28% reporting an impact on quality of life and 18% on training and performance. **Conclusion:** The oral health of Thai professional soccer players was poor that may result in negative impact on well-being, training and performance. As oral health is an important element of overall health and well-being, health promotion is required to optimize soccer player performance.

Key words: oral health status, performance, soccer players

INTRODUCTION

Soccer is one of the most popular team sports in the world, with more than 200,000 players.[1] In Thailand, soccer is the most popular sport. A high performance of a soccer player can only be attained by a healthy body condition. In general, oral health is important for overall health and quality of life. Soccer players need to keep their health status to be able to show their high performance and should not be put at risk to stop working during the competition by general or oral health problems because soccer players would lose their salary if they are not able to continue to play.[2]

Soccer players are prone to injury that majority occur in the lower extremities, specially knees and ankles.[3] Data on the general and oral health of soccer players are important because it will help us to understand the oral health status of the players in order to determine whether there is a need to implement preventive care programs. However, there are few data available that have explored the oral health status of soccer players in ASEAN. The etiological studies regarding the relationship between sports and oral health revealed that athletes may have poor oral health, such as high levels of dental caries, dental erosion and dental trauma.[4,5] It is proposed that poor oral health could down regulate athletes performance.[6] This indicated that the poor oral health could affect soccer players' performance as well. However, the relationship between oral health and performance is not well understood in professional soccer players.

The aim of this study was to evaluate oral health status, the determination of oral health and the effect of oral health on well-being, training and performance of professional soccer players in Thailand.

METHODS

This was a pilot cross-sectional survey on a sample of 25 professional soccer players were consecutively evaluated in the 2015 seasons of Phitsanulok Football Club, Thailand. Oral health status was examined by one dentist. The decayed, missing and filling index (DMFT) was used to assess caries prevalence. To evaluate oral hygiene, a plaque index (PI) according to Quigley &

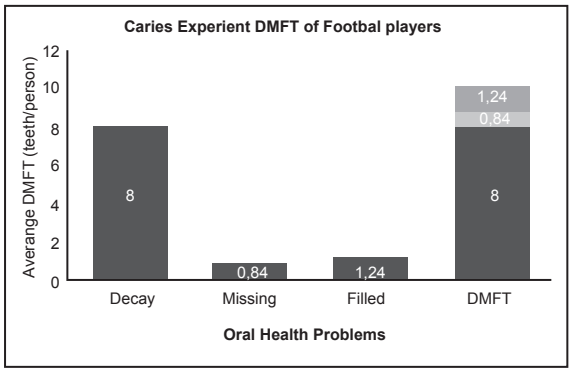

Figure 1. DMFT score of Thai football players

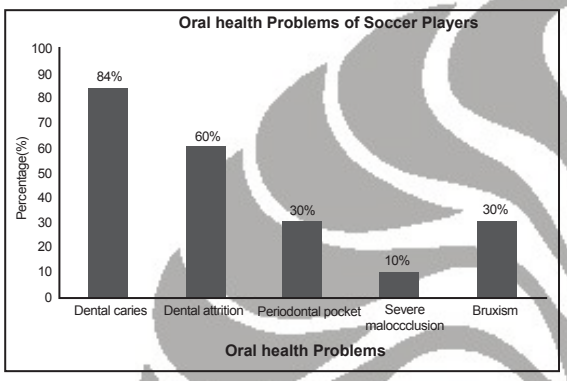

Figure 2. Oral health problems of Thai football players

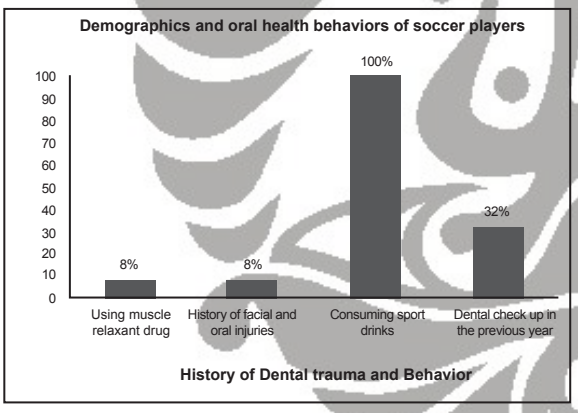

Figure 3. Demographics and oral health behaviors of Thai soccer players

Hein plaque index was used.[7] To assess periodontal status, the Löe & Silness gingival index (GI), and World Health Organization (WHO) pocket depth were used.[8] To assess temporomandibular disorder, WHO of dentofacial anomalies, temporomandibular joint assessment were used.[9] Facial and oral trauma during training and performance were collected by questionnaire interview.

The data obtained were registered introduced in a database and analyzed with version 17.0 of the Statistical Package for the Social Sciences (SPSS; SPSS Inc. Chicago. USA). Descriptive and frequency distribution measures were used for the quantitative and qualitative variables, respectively. Kolmogorov-Smirnov analysis was used to test normality of distribution. Chi-square and Fisher testing was used to compare qualitative variables. Correlations between quantitative variables were measured with the Pearson's correlation coefficient. In all case $p<0.05$ was used for the level of significance.

RESULTS

The mean age of this soccer team was 27.50 ± 4.72 years old. The questionnaire revealed that none of the soccer players had systemic diseases. About 8% of all players had taken muscle relaxant drug. The training schedules of players were 3-5 hours per day and 5 days a week. The oral examination showed the poor oral health. The mean DMFT score of this team were 10.08 teeth per person (D=8.0, M=0.84 and F=1.24 teeth/person) (Figure 1). We found that 84% of all players had dental caries; 60% had dental attrition; about 30% had periodontal pocket and about 10% with severe malocclusion (Figure 2).

During the last 12 months, about 8% of all players reported the facial and oral injuries they had experienced. About 30% of all players suffered from bruxism. Two-thirds (68%) of the participants had not undergone a dental examination or hygiene care in the previous year (Figure 3).

We found the relationship between sport drink and dental attrition. All of dental attrition players' frequently consume sport drink on training compare with non-attrition groups ($p< 0.05$). More than 40% of athletes were bothered by their oral health. About 28% of all players reported that oral health impact on quality of life. Nearly one-fifth (18%) of them were suffered from oral health problems on training and performance. Nevertheless, poor oral health status was not significantly correlated with quality of life.

DISCUSSION

This study was the first study to demonstrate the oral health status of soccer players in Thailand. We found that the oral health of soccer players were poor, high percentage of dental caries, consistency with previous study reported that soccer players may have a somewhat higher risk of developing caries than non-players.[10] The mean DMFT in professional soccer players of Phitsanulok football club was 10.08 teeth/person which higher than the mean DMFT in national survey of adult which was 6.0 teeth/person.[11] Research in Barcelona, Spain showed that the mean DMF index in professional soccer players (5.7 teeth/person) was higher than students (0.9 teeth/person).[12]

All of player in this study reported that they had tooth brushing twice a day but theirs oral hygiene was poor (high plaque score and high percentage of players who had gingivitis). Approximately 30% of all players had periodontitis which was higher from previous studies (15 % of athlete participating in the London 2012 Olympic Games).[4] Poor oral hygiene is risk factor of all oral disease.[13] The oral hygiene instruction should be included in for health program.

Dental attrition was the main problem of players in this study. We found the association between dental attrition and sport drink, consistent with finding of previous study, 36.5% of athletes who used sport drinks were found dental attrition.[14] All of the soccer players in this report used sport drinks. Previous studies suggested that sports drinks and decreased salivary flow during exercise were involved in the causes for poor level of oral health, consistent with the study by WG Young which reported that the lesions of tooth wear can be better explained by loss of salivary protection against acid rather than by bruxism or toothbrush abrasion.[15,16] Loss of salivary protection of the teeth is caused by work- and sport-related dehydration, drugs and certain medical condition and syndromes.[17] Fluoride supplement for strengthen tooth and dental education about the effect and how to used sport drink should be establish for this soccer club.

Facial and oral injuries suffered by 8% of soccer players in our study which was lower, compared with the mean of 23% reported in Brazilian soccer players.[18] Avulsion of permanent teeth is the most serious of all dental injuries. The prognosis depends on the damages taken at the place of accident or the time immediately after the avulsion. Replantation is the treatment of choice, but cannot always be carried out immediately. An appropriate treatment plan after an injury is important for a good prognosis.[19] In this study, none of the soccer players and their staff do not know how to manage on these injuries. Therefore, some treatments, prevention guidelines and strategies of oral health promotion regarding to dental caries, periodontal status and management of facial and oral injuries would be necessary.

Previous study reported that oral health affects general health by causing considerable pain and suffering by changing what people eat, their speech and also has an effect on other chronic diseases.[20] Previous study reported that the oral health also affects people psychologically and influences on how they enjoy life, look, speak, chew, taste food and socialize. Severe caries detracts from people quality of life: they experience pain, discomfort, acute and chronic infections, eating, sleeping, and high treatment costs.[21] Previous study shows that the significant of oral health and impact on performance of athletes participating in the London 2012 Olympic Game, whereas this study failed to find the relationship of oral health status and quality of life might be from the small number of samples.[4] Better oral health will improve quality of life and performance of soccer player.

CONCLUSION

The oral health of professional soccer players in this study was poor with a resulting of negative impact on well-being, training and performance. As oral health is an important element of overall health and well-being, health promotion is required to optimize soccer player performance. Oral examination and periodically follow up are crucial as parts of the preventive program, which help identify the caries lesion and reduce the occurrence of caries, periodontal disease and other oral pathologies.

In the future, oral health assessment should be part of every player's routine medical care because poor oral health can affect well-being, training and performance of the players. Oral health promotion strategies need to be developed to facilitate the health, well-being and performance of the players.

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