

Knowledge, awareness, and practice on dental caries status among private security

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ABSTRACT

Topic: Knowledge awareness and practice on dental caries status among private security persons. **Aim:** This study aims to assess if the private security person has KAP on dental caries. **Introduction:** Dental caries is the scientific term for tooth decay or cavities. It is caused by specific types of bacteria. They produce acid that destroys the tooth's enamel and the layer under it, the dentin. Many different types of bacteria normally live in the human mouth. They build up on the teeth in a sticky film called plaque. This plaque also contains saliva, bits of food, and other natural substances. It forms most easily in certain places. These include cracks, pits, or grooves in the back teeth, between teeth, around dental fillings or bridgework, and near the gum line. **Materials and Methods:** The present study was conducted in Chennai among randomly selected private security guards. Questionnaire was then distributed among 70 randomly selected security guards. The question was related to knowledge, awareness of the status of dental caries. A total of 20 questions were asked. **Results:** It was found that the security guard's knowledge, awareness, and practice level on dental caries status was 45% as one of the basic reasons was that they had only basic level education. **Conclusion:** While the oral hygiene status was found to be relatively fair, there was a high rate of dental caries among the security guards. This shows that there was a lack of knowledge regarding the oral health maintenance; therefore, the knowledge on dental caries should be spread through dental camps and health education programs. Furthermore, dental camps can be set up and they can be taught the right way in which the oral hygiene can be maintained, and 6 months later, a follow-up can be done to see if they are practicing well.

KEY WORDS: Decay, Dental caries, Oral hygiene, Security guards

INTRODUCTION

Dental caries, which is also referred to as tooth decay or cavities, is one of the most common and widespread persistent diseases today and is also one of the most preventable. When you eat certain foods, the bacteria on your teeth break them down and produce acids that have the ability to seriously damage the hard tissues of your tooth. The result is the formation of dental caries (cavities).^[1] Typically, dental caries can be spotted on two specific areas of the teeth: Occlusal caries, which form on the topmost part of the tooth where food particles repeatedly come in direct contact with the teeth and interproximal caries, which are dental caries that forms between the teeth. It's in these two locations where bacteria fester and pose a risk to your oral hygiene. If the teeth and surrounding areas are not cared for properly, the bacteria will begin to digest the

sugars left over from food in your mouth and convert it into acids as a waste product. These acids are strong enough to demineralize the enamel on your teeth and form tiny holes – the first stage of dental caries. As the enamel begins to break down, the tooth loses the ability to reinforce the calcium and phosphate structures of the teeth naturally through saliva properties and, in time, acid penetrates into the tooth and destroys it from the inside out.^[2] Professionally, there are four main ways to deal with dental caries. These treatments carried out by a dental professional can help treat damage incurred from dental caries.

- **Fillings:** Fillings are the most common form of treatment for the disease. A dental professional drills into the affected area(s) of the teeth, removes the decayed material inside the prepared cavity, and packs this empty space with an appropriate dental filling material.^[3]
- **Crowns:** Crowns are another option for dental professionals when treating dental caries and are only used when a large proportion of the tooth is destroyed by disease.^[4]

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- Root canal: Another method of treatment, a dental professional may employ, is called a root canal. As tooth decay progresses through the enamel and settles in the center of the tooth, it may even advance further and damage the nerves, which are in the root.^[5]
- Extraction: In some cases, the tooth may be damaged beyond repair and must be extracted if there is risk of infection spreading to the jaw bone.^[6]

Despite the impact tooth decay can have on your teeth if left unattended, dental caries or cavities are largely preventable with a great oral hygiene regimen! This includes:

- Brushing your teeth twice a day for at least 2 min using fluoride rinse, paste, or gel. We recommend Crest Pro-health products which include fluoride to help reduce the production of acid that can damage your teeth.
- Flossing regularly after brushing, especially if you are frequently eating or drinking sugary foods or drinks. Certain foods high in sugar can provide a consistent supply of damaging acid to the tooth hard tissues. Flossing once or twice a day with Crest Pro-Health products can help you remove food particles from between the hard-to-reach areas of your teeth you might be missing.^[7]

A security guard (also known as a security officer or protective agent) is a person employed by a private party to protect the employing party's assets (property, people, equipment, money, etc.) from a variety of hazards (such as waste, damaged property, unsafe worker behavior, and criminal activity such as theft) using preventative measures. Security guards do this by maintaining a high-visibility presence to deter illegal and inappropriate actions, looking (either directly, through patrols, or indirectly, by monitoring alarm systems or video surveillance cameras) for signs of crime or other hazards (such as a fire), taking action to minimize damage (such as warning and escorting trespassers off property), and reporting any incidents to their clients and emergency services (such as the police or paramedics), as appropriate.^[8] A security guard also needs knowledge and awareness on dental caries as they have long working hours and they have odd timing to do their duties, not many are knowledgeable on dental caries status as they think that oral hygiene is not that important. Hence, my study focuses on these groups of people to help them live a better healthier life.

MATERIALS AND METHODS

A cross-sectional questionnaire survey was conducted among the private security guards of Chennai, Tamil Nadu, India, during the period of December 12–December 30, 2017.

The four most popular districts in Chennai where most of the security guard resided are Poonamallee, Koyambedu, Anna nagar, and Iyyapanthangal.

A total of 70 security guards were assessed using a structured questionnaire comprising 20 closed-ended questions which included questions regarding the participants' demographic details (age, gender, and place), oral health-related knowledge, awareness, and practices on dental caries. Questions were explained whenever necessary, and the participants were given assurance regarding confidentiality of their responses and were requested to mark their answers and complete it individually. Some security guards had language problem, and thus, the questionnaire was translated to them in their preferred language. Security guard's knowledge, awareness, and practices were assessed using a questionnaire which included the following:

- General information: Name, education level, age, and gender
- Knowledge: Oral health-related knowledge on matters such as causes and prevention of dental caries and gum disease, dietary habits (especially sugar consumption), fluoride, and sources of dental health information.
- Attitude: Attitude toward the prevention of oral diseases, dental visits, importance of dental care, etc.
- Practices: Oral hygiene practices, mainly brushing and rinsing habits, frequency of dental visits, services received at the last visit, etc.

The questionnaire which was distributed to the security guards is shown in below table.

<p>Name:</p> <p>Age:</p> <p>Education level:</p> <p>Phone number:</p> <ol style="list-style-type: none"> 1. Does keeping natural teeth are important for general well-being? • Yes • No 2. Does natural teeth are better than false teeth? • Yes • No 3. Does brushing teeth can prevent decay? • Yes • No 4. Does eating and drinking sweet food does not cause decay? • Yes • No 5. Does a regular dental checkups are necessary? • Yes • No 6. Does flossing teeth can prevent tooth decay? • Yes • No

7. Does use of fluoride prevents tooth decay?
 - Yes • No
8. Do you think decay makes your teeth look bad?
 - Yes • No
9. Are you afraid of dentist due to possible pain?
 - Yes • No
10. Do you frequently snack between meals?
 - Yes • No
11. How many times a day do you brush?
 - Once
 - Twice
 - Twice and more
12. How do you brush?
 - Toothbrush and toothpaste
 - Toothbrush and tooth powder
 - Other forms
13. Do you use mouthwash?
 - Yes • No
14. Do you rinse your mouth after eating?
 - Yes • No
15. Do you have dry mouth?
 - Yes • No
16. Do you wear braces, dentures, or partial dentures?
 - Yes • No

After distributing the questionnaire, simple oral hygiene education was given highlighting certain practices like mouth rinsing with water after each meal. In addition, brushing technique was also taught by holding the students' hands and demonstrating the correct strokes (Bass method). All the collected data were then analyzed and bar graphs and pie charts were then plotted.

RESULTS

A total of 70 security guards were questioned, of which 48 (69%) were male and 22 (31%) were female. The mean age of the study subjects was 36.78 years. Figure 1 shows how many thought that keeping natural teeth are important for general well-being and it was found that 33% said No and 67% said Yes. This further says that these groups of people have an awareness that retaining natural tooth is very important.

The security guards were asked whether they rinse their mouth after eating 83% answered NO and only 17% answered YES. This proves that their oral hygiene is not well maintained, and the reason for this is that some were not aware and some felt that it was not important.

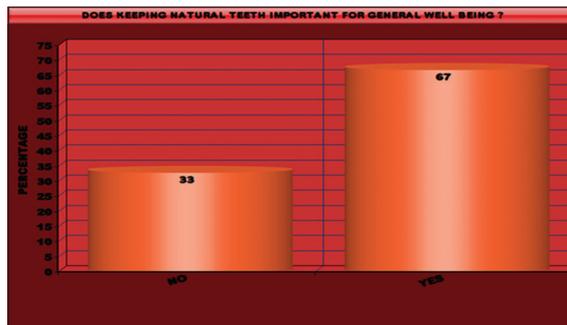


Figure 1: A bar chart assessing their knowledge on dental caries

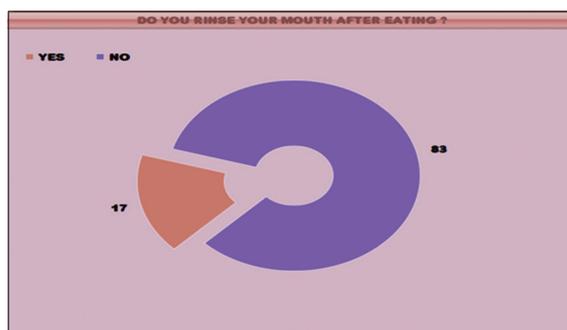


Figure 2: A pie chart on how they practice to keep their oral hygiene

Results show that 20 said YES to snack between meals and 80% said NO. As previously said, they do not have the time to do so thus the results.

Patients were asked about dry mouth, of which 53% said No and 46% said yes.

This shows that the result is relatively the same, but 7% more security guards experience dry mouth as the common reason found was smoking.

It was found that to this question (Does brushing your teeth prevent tooth decay?), 71% answered NO and 29% answered YES due to unawareness about dental caries.

The participants were asked whether they use mouthwash and floss regularly, and it was found that 47% said YES and 32% said NO and 21% said sometimes [Figures 2-6].

Most of them use mouthwash as they have odd hours of working time they prefer using mouthwash than brushing.

DISCUSSION

In the present study, most of the security guards knew at least the basic causes and prevention of dental caries and gum diseases. However, knowledge regarding fluoride, interdental aids, malocclusion, and harmful effects of soft drinks was low.^[9] These results are in

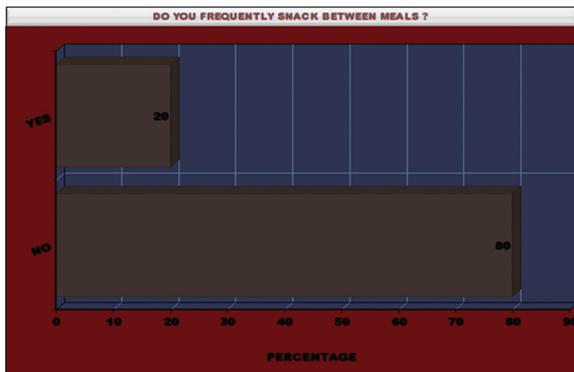


Figure 3: A horizontal bar chart to check how well they practice to keep their oral hygiene level intact

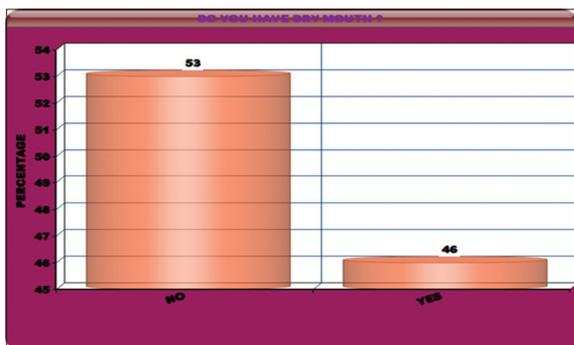


Figure 4: A vertical bar chart in assessing their awareness on oral hygiene and dental caries status

agreement with other studies.^[10] This could be a result of the oral health knowledge that they had acquired either at primary school level or through the media. Adequate knowledge on the causes, prevention, and signs of dental caries and gum disease depicts that security guards can retain and recall the acquired knowledge as they grow. Similar to the findings of this study, a high proportion of security guards with adequate level of knowledge on cigarette smoking as a cause of oral cancer was also reported in Tanzania,^[11] Kenya,^[12] and the UK.^[13]

Only 30% of security guards visited dentist when they had dental pain. This is similar to the result of Kikwilu *et al.*'s^[14] study, whereas the study results of Carneiro *et al.*^[15] are not in agreement with our study. Gómez *et al.*^[16] in their report highlight the importance of early detection as a cornerstone to improve survival.

Majority of the security guards thought that dental treatment is costlier and painful, which might be due to fear. It has been suggested that the modification of attitude allows a change in the behavior, which further causes attitude modification in most of the security guards who complained that dental treatment was painful and costly.

Certain oral diseases, such as chronic periodontitis and caries, that are considered as public health

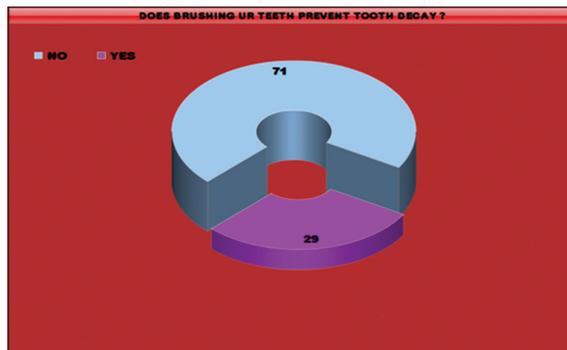


Figure 5: A pie chart assessing their knowledge on dental caries

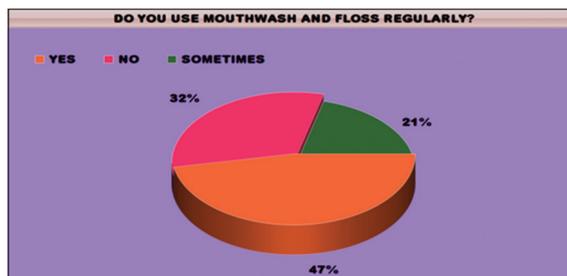


Figure 6: A pie chart where the practice of oral hygiene is checked

problems may be alleviated by effective and regular self-toothbrushing.^[17] The study results revealed once a day toothbrushing practiced by majority of the participants. Similar results were obtained in other studies.^[13,1,18]

Toothbrush and toothpaste were commonly used for brushing among the study population, which is in agreement with the findings of other studies.^[19,20] In the present study, security guards did not use any interdental aids, whereas most of the students in Tanga Region, Tanzania,^[5] used interdental aids, mainly toothpick, to maintain their oral hygiene.

CONCLUSION

While the oral hygiene status was found to be relatively fair, there was a high rate of dental caries among the security guards. This shows that there was a lack of knowledge regarding the oral health maintenance; therefore, the knowledge on dental caries should be spread through dental camps and health education programs. Furthermore, dental camps can be set up and they can be taught the right way in which the oral hygiene can be maintained, and 6 months later, a follow-up can be done to see if they are practicing well.

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