

## MISSED DENTAL APPOINTMENTS IN THE UNITED ARAB EMIRATES

Ayad I. Ismail<sup>1\*</sup>, Musab Hamed Saeed<sup>2</sup>, Fadi M. Al-Silwadi<sup>3</sup>

1. Associate Professor, Department of Restorative Dentistry, College of Dentistry, Ajman University of Science & Technology, Ajman, UAE.
2. Assistant Professor, Department of Restorative Dentistry, College of Dentistry, Ajman University of Science & Technology, Ajman, UAE.
3. Clinical Tutor, College of Dentistry, Ajman University of Science & Technology, Ajman, UAE.

### Abstract

The aim of this study was to determine the prevalence of missed dental appointments in the U.A.E and to assess the factors involved. Random sample of 155 patients and 50 dentists was selected and data was collected from these parties using questionnaires.

Analysis of data from these questionnaires provided information regarding the prevalence of this issue and its causative factors. Appointment and financial data was then collected from two private clinics and compared with the data obtained from the dentist and patient questionnaires. On average, 22.5% of dental appointments in the U.A.E are missed. The most common reasons for missing dental appointments according to patients were fear of pain and having an emergency or circumstance. The most significant factors involved were patient age, patient income, patient education, presence of pain, and patient psychology.

Results showed that missed dental appointments cause an average loss of AED 800 (USD 220) per day for a dental clinic. It was concluded that this rate of missed dental appointments was unacceptable because of its negative impact on all involved parties.

The key in dealing with this issue lies in altering patient psychology during the first appointment and through the implementation of missed dental appointment policies.

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### Introduction

Missed dental appointments are an issue which has been noticed for years but very little research has been conducted around it. It can be defined as the absence of a patient or practitioner at a predetermined time and place without a cancellation within 24 hours prior to the appointment. There are times when a patient absolutely must cancel or not show up for a dental appointment due to unforeseen circumstances. In general, most patients respect a dentist's time and tend to be punctual when

dealing with appointments. However, there are patients who always seem to find an excuse to break or miss their dental appointment.

Few research has been conducted around this issue mostly occurred in North America and Europe.<sup>1,2,3</sup> Very few researchers have looked at the issue of missing dental appointments in the Middle East, Asia, and Africa where it tends to be more prevalent. The consequences of missing a medical or dental appointment are not as simple as they appear. In all cases there is a reduction in the efficiency of the organization in question, however, when it comes to medical and dental appointments there are other factors which come into play.<sup>4</sup>

When a patient misses his/her dental appointment, that patient is denying himself/herself dental care which is beneficial to them if not urgent. Moreover, that patient is denying dental care to others who would have benefited from the time allocated to the appointment which he/she missed. Dental clinics, hospitals, their staff, and their suppliers are also

#### \*Corresponding author:

Ayad I. Ismail  
Associate Professor, Department of Restorative Dentistry,  
College of Dentistry, Ajman University of Science & Technology,  
Ajman, UAE.  
P.O. Box: 346 Ajman, UAE

E-mail: iyad.ismail@gmail.com

greatly affected by this issue. This problem has even more negative effects when related to a university setting where dental students in the clinical phase of their training rely on appointments with patients for their dental training.

The result is that dental students only partially complete their academic clinical requirements and may end up graduating as dentists without adequate clinical training to meet the dental demands of the society.<sup>5</sup> Dental patients are denied the high quality dental care which they need and are entitled to. At the same time, dentists are expected to provide a level of care which they have not been adequately trained to provide. There is much that can be done to deal with this issue but careful study and research is first required to understand the issue before solutions are presented.<sup>6,7</sup>

The ultimate goal of this research is to provide clear guidelines and solutions to reduce missed dental appointments. These solutions can only be presented once this issue is looked at as a whole and analysis on impartially collected data from all those involved is carried out.<sup>8,9,10</sup>

### Materials and methods

To accurately analyze the issue of missed dental appointments and reach sound conclusions, data had to be gathered from all those involved. The main people involved in a dental appointment are dentists and patients. Data to be analyzed had to be collected from both parties. It was decided that the best data collection method was questionnaires.

Questionnaires had the advantage of providing a significant amount of data with much less ambiguity than an interview for example. Questionnaires also eliminated the issue of the researcher affecting the subject's responses because they were filled out anonymously. Two types of questionnaires were formulated, one for dentists and the other for patients. These questionnaires were then tested on subjects and improvements were made according to feedback. It was decided that a sample size of 155 patients and 50 dentists would be required to draw conclusions that could be generalized on the entire population.

A much higher number of patients than dentists were used because it was assumed that

most dental appointments are missed because of patients rather than dentists. In other words, it is rare for a dentist not to show up for a dental appointment when compared a patient. Simple random sampling was the sampling method that was employed.

All questionnaires were checked for completeness before they were collected. This was not the only data collection method that was used. Data was also collected from two private clinics regarding the issue of missed dental appointments to conceptualize how prevalent this issue is on a practical and realistic basis.

The selected clinics selected were in Abu Dhabi and Dubai, U.A.E and the data was collected without the knowledge of the dentists there to eliminate any bias. Permission to collect data was obtained from the management of these dental clinics on the condition that the clinics would remain confidential.

The data collected was based on the number of appointments per day, the number of missed appointments per day, and the amount of revenue loss per day due to missed appointments.

It was important to find out how many dental appointments are missed per day relative to the total number per day and what kind of revenue loss dental clinics incur due to this. This aspect of data collection gave an idea of the problem that missed dental appointments posed in financial terms.<sup>11</sup>

### Results

From the data collected from questionnaires, it was deduced that 17.1% of dental appointments were missed according to the responses of patients and 33.3% of dental appointments were missed according to the responses of patients. Surveyed clinics revealed that averages of 17.4% of appointments were missed. Therefore, at least one in every five dental appointments is missed.

There were different reasons or factors revealed by dentists and patients as the cause for missed dental appointments. 35.5% of patients stated that they would miss their dental appointments because they were afraid while 29.7% of patients stated that they had an emergency to deal with.

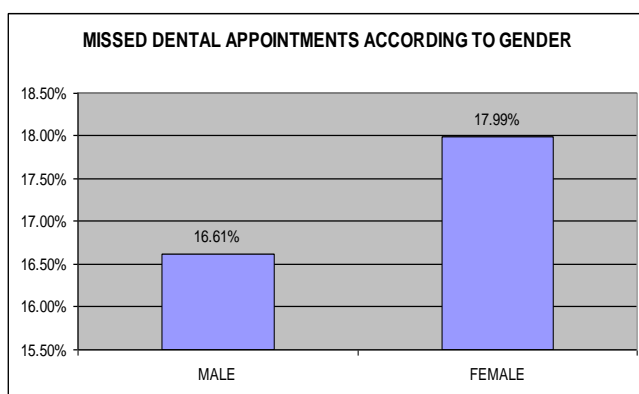
49% of dentists stated that their patients would miss their appointments because of an

emergency while 27% of dentists stated that their patients did not see benefit in dental treatment. Only 7% of dentists stated that their patients would miss their dental appointments because they were afraid of seeing the dentist.

PATIENT FACTORS
Age
Gender
Income
Level of Education
Previous Dental Experience
Experience with Dental Emergencies
Pain Factor
Avoidance of the Dentist
Faith in Dentist's Judgment
Previous Missed Dental Appointments
Patient Opinion on Missed Dental Appointment Policies
DENTIST FACTORS
Dentist: General Practitioner or Specialist
Work Sector: Public/Private/Armed Forces
Missed Dental Appointment Policy
Treatment to be Performed

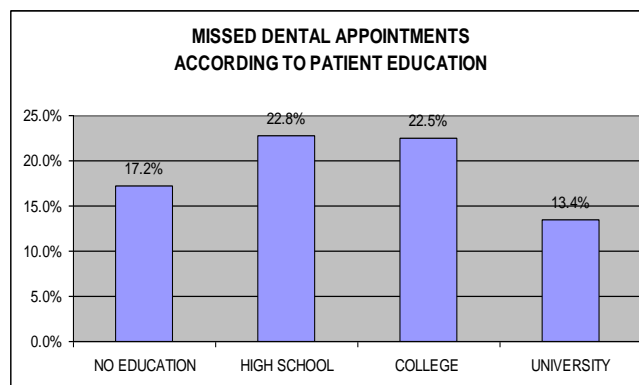
**Table 1.** Factors Involved in Formulating Questionnaires.

The most significant factors involved in whether or not patients would miss their dental appointments were patient age, income, and education. As patient age, income, and level of education increased, the rate of missed dental appointments decreased significantly. 44.5% of surveyed patients stated that they thought it was fair to be charged for dental appointment that they missed. Those patients showed a missed dental appointment rate of 11.8%.



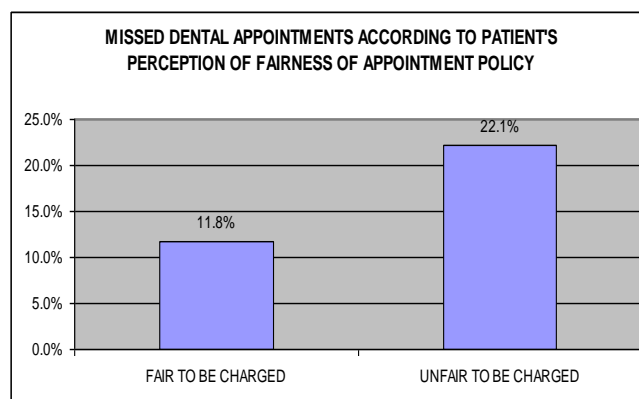
**Figure 1.** Missed Dental Appointments according to gender.

Patients who stated that they did not think it was fair to be charged for a missed dental appointment showed a missed dental appointment rate of 22.1%. The most common dentist factor involved in whether or not patients would miss their dental appointments was the presence of a missed dental appointment policy such as charging patients for missing their dental appointments.<sup>12</sup>



**Figure 2.** Missed Dental Appointments according to Patient education.

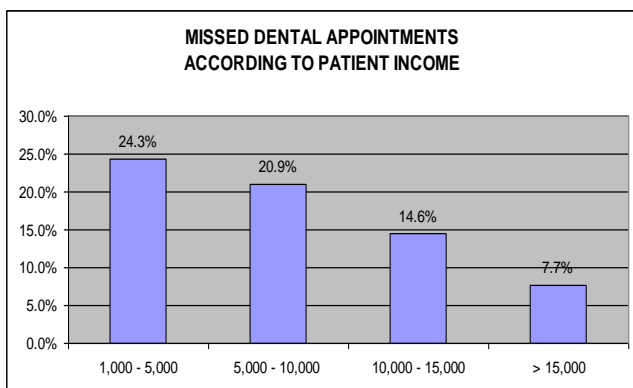
Dentists who did not charge their patients for missing their dental appointments showed a missed dental appointment rate of 35% while those who did charge showed a rate of 29.5%. According to dentists, an average of AED 875/day was lost per day due to missed dental appointments.



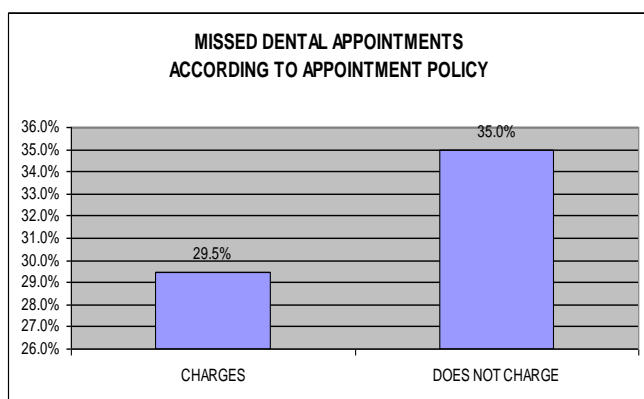
**Figure 3.** Missed Dental Appointments according to patient perception of fairness of appointment policy.

Surveyed clinic A put this figure at AED 844/day while clinic B put this figure at 746/day. About 50.3% of patients believe a medical appointment is more important than a dental

appointment. 40% of patients have missed at least one dental appointment because they felt that there was no benefit in treatment and 12.3% of patients have missed at least one dental appointment without rescheduling.



**Figure 4.** Missed Dental Appointments according to patient income.



**Figure 5.** Missed Dental Appointments according to appointment policy.

Nearly 14.8% of patients have had trouble paying for dental treatment and 16.1% of patients have previously been denied treatment by a dentist due to repeatedly missing their appointments. About 40% of patients said that they tend to miss their dental appointments less when they are undergoing pain. More than 93% of dentists said that their patients tend to miss their appointments less when they are undergoing pain. About 63% of dentists said that patients who live closer to their dental office tend to miss their dental appointments less.

## Discussion

Dentists put the figure of missed dental appointments at a much higher rate than patients

while surveyed clinics put the figure at 17.4%, closer to the figure given by patients.

The differences in the responses of patients and dentists can be attributed to an over-exaggeration of the issue by dentists. Averaging the three figures gives a general missed dental appointment rate of 22.5%. In other words, one in every four or five dental appointments in the U.A.E is missed.

The responses of dentists and patients are very conflicting but it can be agreed that the reasons put forth for missing dental appointments are common. Both parties agreed that the most common reasons for missing dental appointments are fear of pain, having an emergency, and seeing no benefit in treatment.<sup>10,11</sup>

These reasons give a clear idea on what must be focused on when trying to solve this issue. Gender did not play a very significant role in determining whether or not patients missed their dental appointments. Male patients stated that they missed 16.6% of their dental appointments whereas female patients missed almost 18% of their appointments.

The higher missed dental appointment rate of females may be attributed to the idea that female patients may have more fear of the dentist relative to males. Note that patients gave fear of pain as the most common reason for avoiding the dentist and missing dental appointments. However, patient age showed a very significant correlation with missed dental appointment rates. As patient age increased, the rate of missed dental appointments decreased significantly. Patients aged more than 60 years had a missed dental appointment rate of 11% whereas those aged between 18 and 25 years missed 21.7% of their dental appointments. This correlation can be attributed to the fact that older patients are more responsible and are less likely to miss their appointments.

Older patients may also be in more need of the dentist due age-related changes in their oral health. Finally, older patients may be more conscious and concerned about their oral health than younger patients and are therefore less likely to miss their dental appointments.

Patient income also played a very significant role in determining whether or not patients were likely to miss their dental appointments. As patient income increased, the rate of missed dental appointments decreased

very significantly. This can be attributed to the fact that patients with a higher income are more ready and willing to pay for dental treatment.

Note that 11.6% of patients and 7% of dentists said that patients avoid the dentist and miss their dental appointments because they want to avoid paying for treatment. The education of patients also plays a role in whether or not patients would attend their dental appointments. University graduates had the lowest rate of missed dental appointments at 13.4% whereas high school students had the highest rate at 22.8%. University graduates are more used to appointments and deadlines and it is not surprising that they have the lowest rate of missed dental appointments.

The psychology of patients was found to play the most significant role in determining whether or not patients would attend their dental appointments.

One of the most important aspects of patient psychology was the opinion of patients towards the fairness of missed dental appointment policies. In other words, how did patients feel about being charged for a missed dental appointment and how did this affect missed dental appointment rates. Around 45% of patients felt that being charged for an appointment that they missed was fair. These patients had a much lower missed dental appointment rate of 11.8% when compared to those who did not think it was fair. Those patients who did not think it was fair to be charged for a missed dental appointment had a missed dental appointment rate of 22.1%. This is one of the most significant findings of this study and it is on the basis of this finding that recommendations can be made to deal with this issue.

How patients felt about their dentist also plays a significant role in determining missed dental appointment rates. Those patients who trusted their dentist and believed their appointments were scheduled for their well-being rather than profit had a missed dental appointment rate of 16.2%. Whereas patients who did not trust their dentist and believed their appointments were scheduled for profit rather than their well-being had a higher missed dental appointment rate of 20%.

The results showed that specialists had a slightly higher missed dental appointment rate than non-specialists. This was surprising at first

but logical reasoning helped to explain this correlation.

Patients who have scheduled appointments with specialists are more likely to have done so for elective dental treatment. Whereas, patients who have scheduled appointments with general practitioners are more likely to have done so for emergency dental treatment to relieve pain.

Note that a large proportion of patients have stated that they are less likely to miss an appointment when they are undergoing pain. This reasoning may explain why specialists have a higher missed dental appointment rate than non-specialists. The rate of missed dental appointments was also affected by the various sectors in which dentists practiced. The highest rate of missed dental appointments was seen in the private sector followed by universities and then by the public sector.

High rates of missed dental appointments are seen in the private sector when compared to the university and public sectors because the appointment policies of these two sectors are less forgiving. It is rare for a dental student or a dentist working in a private clinic to deny care to a patient because he/she missed their dental appointments. This is more likely to occur in the public sector as the volume of patients is much higher and are more replaceable.

Dental students value their patients more due to academic clinical requirements just as private sector dentists value their patients more due to the profit they earn from them. This does not mean that dentists who practice in the public sector do not value their patients, but these dentists are less willing to end the contractual relationship with patients due to missed dental appointments. This translated into the least missed dental appointments in the public sector.

The presence of a missed dental appointment policy at the dentist's office is also very significant in determining missed dental appointment rates. The most common type of missed dental appointment policy is to charge patients who missed their dental appointments a fee. Dentists who charged their patients for missing their dental appointments had a missed dental appointment rate of 29.5%. This rate is lower than the missed dental appointment rate of dentists who did not charge their patients a fee for missing their dental appointments which was found to be 35%. This is also one of the most

significant findings of this research and a great deal of attention must be paid to it when trying to solve this issue.

A daily average loss of AED 800/day/clinic does not seem like a very significant sum on its own but taking a step back and looking at the big picture shows how much of a problem this issue poses in financial terms. If there are 500 clinics in the U.A.E each losing AED 800/day due to missed dental appointments for 300 working days per year, the total loss per year is AED 120 million.

Note that AED 120 million is an underestimate because there are surely more than 500 dental clinics in the U.A.E. Also note that the U.A.E is a very small country with a very small population. The loss of revenue due to missed dental appointments at a regional, continental, or international level is surely in the high billions of dollars.

### Conclusions

The issue of missed dental appointments is too prevalent in the U.A.E and has too many ill effects to be ignored. The idea that missed dental appointments is an inevitable part of dentistry is a fallacy.

It may be impossible to completely eliminate the issue of missed dental appointments but it is certainly possible to decrease the rate of missed dental appointments to a point where dental appointments are only missed due to genuine patient emergencies or circumstances. The findings of this study have allowed for a variety of new ideas to be put forth which can deal with the issue.

The most significant patient attributes in determining whether or not patients would attend their dental appointments were age, income, and education. Therefore, certain patients can be classified into a high-risk category according to these attributes. Patients at a high-risk of missing their dental appointments are those who are younger with a lower income and less education.

Preventing these patients from missing their dental appointments can dramatically reduce the rate of missed dental appointments. The psychology of patients is one of the major things that must be focused on. As the results of this study showed, patients who believed that being charged for a missed dental appointment is

a fair practice were very unlikely to miss their dental appointments.

Altering the psychology of patients if deemed necessary must be done in the first visit to reap the benefits. The first dental visit is the most important visit not only from a treatment planning point of view but also from a psychological point of view. During the first visit, the dentist should try to understand whether or not the patient has a habit of missing dental appointments or avoiding the dentist.

The patient's logic for doing so must also be clearly understood. Psychological alteration should be done according to this. Dentists should inform patients that missing their dental appointments is completely unacceptable and irresponsible. This will ensure that patients will only miss their dental appointments when they have a genuine emergency or circumstance.

Dentists should inform patients that dental treatment is necessary to enhance oral health which is vital for a better quality of life. This will ensure that patients do not avoid the dentist because they see no benefit in treatment.

It must be explained to the patient that dental treatment is not only necessary when pain is present, this way the patient will not miss their dental appointments because they are not undergoing pain.

As stated in the results, very large proportions of patients avoid the dentist and miss their dental appointments because they are afraid of having a painful experience at the dentist's clinic.

Patients must be convinced that a dental appointment does not have to be a painful experience. If this is done, the most common excuse patients use for avoiding the dentist will no longer be used. A fair and legal missed dental appointment policy must also be implemented. This policy should be clearly explained to the patient during the first visit.

The patient must leave the dentist's office convinced that such a policy is fair. Doing so will probably have the most positive effect in reducing missed dental appointment rates. Finally and most importantly, the patient must be convinced that their dentist is trustworthy.

For the patient to respect the dental appointment, the patient must trust the dentist. Patients can only trust dentists who are genuinely honest, fair, and most importantly competent.

Implementing these recommendations can prove to be very effective in reducing the rates of missed dental appointments in the U.A.E.

### Declaration of Interest

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