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## **Personal perspective about dentistry and dental treatment among the Palestinian population: A cross-sectional questionnaire study.**

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**Abstract**--Background: Dental health largely affects the general health. The general population should be well aware about the recent advances in dental care to make informed choices on the dental procedures. Aim: To assess the personal perspective about dentistry and dental treatment among the Palestinian population. Materials and Methods: All the patients attending the teaching clinic at Al-Quds University in Palestine were included in the study. Questionnaires were given in local language as well as English assessing patients' awareness on the dental health, basic and advanced dental procedures. Frequency was calculated for all variables. Result: 106 participants were included in the present study. Most of the participants visited the dentist only when in pain and had very limited knowledge about oral hygiene procedures. Participants were aware about the basic dental procedures like teeth cleaning and whitening. However, for the choice of type of prosthesis for missing teeth and knowledge on advanced dental procedures like lasers they depend on their dental practitioner. Chi-square test shows no significant correlation between the two variables. Conclusion: Patients should be educated about the importance of dental health and dental professionals should educate them on the newer dental procedures.

**Keywords**--dental health, oral hygiene, oral health.

## Introduction

Dentistry involves treatment and rehabilitation of diseases and conditions that affect the teeth, gums and other supporting structures of the jaws<sup>[1]</sup>. It involves managing the disease, replacement of the damaged structure as well as enhancing the existing aesthetics of the dental and supporting structures. According to American Dental Association House of Delegates, scope of dental practice is defined as, "The evaluation, diagnosis, prevention and/or treatment (nonsurgical, surgical or related procedures) of diseases, disorders and/or conditions of the oral cavity, maxillofacial area and/or the adjacent and associated structures and their impact on the human body; provided by a dentist, within the scope of his/her education, training and experience, in accordance with the ethics of the profession and applicable law<sup>[2]</sup>"

Our oral health has a great impact on our general health. Dental health is essential for good speech, eating well as well as feeling aesthetically confident in our smile<sup>[3]</sup>. Oral infections have always been considered as a risk factor for a wide variety of general health conditions. For example, periodontal diseases have been considered as a risk factor for cardiovascular and cerebrovascular diseases<sup>[4]</sup>. In addition, many diseases of other systems show their oral manifestation. For example, diabetes is manifested as generalised inflammation of the gingiva and periodontium.<sup>[5,6]</sup> Recently, dental procedures have undergone advances with the inclusion of implants, whitening and other aesthetic procedures<sup>[7]</sup>. This has made the rehabilitation more biocompatible and mimicked the natural tooth structure. However, there should be adequate awareness among the patients, so that these treatments can be made available to them for their benefits<sup>[8]</sup>. There needs to be a basic knowledge of the general population on the newer advanced dental procedures. To the best of our knowledge, there is no study assessing the knowledge of the population in Palestine about the newer advanced dental procedures. Hence, the present study was conducted with the aim of knowing the personal perspective about dentistry and dental treatment among the Palestinian population.

## Materials and Methods

The present study follows a cross-sectional study design. The present study is a questionnaire study done on the patients attending the teaching clinic at Al Quds University in Palestine. The present survey was conducted between November 2021 to January 2022. All the patients attending the teaching clinic were explained about the study and informed consent was obtained regarding their participation in the study. All the patients who did not give their consent and those who did not submit a completed questionnaire were excluded from the study. In order to avoid language bias, the questionnaire given to all participants was translated into the local language. The validity of the translated questionnaire was evaluated among 5 sample participants before giving it the actual sample population.

A 14 point questionnaire was given to the participants. The questionnaire analysed the demographic characteristics of the population included in the present study. Additionally, their educational level and place of work was also

noted. The main questionnaire assessed their attitude about the dental visit and basic oral hygiene maintenance. The questionnaire also assessed their attitude on the replacement of missing teeth, basic dental procedures like teeth cleaning and teeth whitening and advanced procedures like dental implants and laser treatment. All the participants were also enquired about the use of social media while deciding on the treatment options. All the data collected were entered in the spreadsheet. Statistical analysis was done using SPSS software version 22. Frequency was calculated for all the variables. Chi-square test was used to find any association between the education level and response to questionnaire. P-value less than 0.05 was considered significant.

## Results

A total of 130 participants were included in the present study. Out of them 16 did not give an informed consent and 8 participants did not submit a completely filled questionnaire. Hence, only 106 participants were included for the final analysis. Equal proportions of male and female participants were included in the present study with an equal distribution in the age groups. While assessing the education level, 35.84% had completed their bachelor degree or higher, 31.13% completed high school, 11.32% completed their diploma and 21.69% had other education qualifications. Most of the participants (87.73%) did not work at Al-Quds University (Table 1).

Majority of the participants included (63.20%) visited dentists only when there was pain. Only 33.01% of participants preferred to visit dentists for routine dental check-up and maintenance. Around 41.50% of participants brushed once a day, whereas very few participants (33.96%) brushed twice a day. While assessing their attitude towards replacement of missing teeth, 64.15% considered it necessary to replace missing teeth. However, there was an equal distribution in the choice of dental implants, crowns and bridges and removable partial denture for the replacement of missing teeth. Esthetics was the least preferred criteria (14.15%) in the choice of treatment and expected pain during the treatment (33.01%) was the most preferred criteria. Chi-square tests show no statistically significant correlation between education level and frequency of each response ( $p > 0.05$ ) (Table 2).

Most of the Participants included in the present study (68.86%) knew about dental implants from a dental practitioner. For 50.94% of patients cost was not an issue if dental implant as a treatment was suggested by a dental practitioner. Most of the participants (55.66%) wanted their dentists to decide on the best treatment options like separate crowns or connected crowns. Majority of the participants (60.37%) did not think whitening and cleaning (65.09%) damaged the tooth. Most of the participants were aware about the aesthetic outcome of teeth whitening, however, very few of them had knowledge on pain after whitening (9.43%), tooth sensitivity (24.52%), inflammation and gum bleeding (32.07%). About 45.28% of participants thought that rarely the tooth colour will change to a darker colour from the result you immediately got after cleaning. Most of the participants had no idea about laser treatment for teeth and gums. Among all the participants included in the study only 15.09% preferred using social media to decide for the best treatment option for them. Chi-square test shows no

statistically significant correlation between the education level and frequency of each response ( $p>0.05$ ) (Table 2).

Table 1  
Demographic data

Variables	Number	Frequency
Sex		
Male	53	50
Female	53	50
Education level		
High school	33	31.13
Diploma	12	11.32
Bachelor degree or higher	38	35.84
other	23	21.69
Do you work at Al-Quds University?		
Yes	13	12.26
No	93	87.73

Table 2  
Frequency data showing personal perspective about dentistry and dental treatment

Variables	Number	Frequency
I usually go to visit the dentist:		
Frequently for routine check-up and maintenance	35	33.01
When I have pain	67	63.20
I avoid dental treatment and prefer to withstand the pain	4	3.77
I brush my teeth with toothbrush and paste		
Once a day	44	41.50
Twice a day	36	33.96
occasionally	16	15.09
I do not use toothbrush and toothpaste	10	9.43
When do you think it is necessary to restore a missing tooth		
Only for missing front teeth	21	19.81
No need to restore, eventually I will need a denture	17	16.03
It is always necessary to restore a missing tooth	68	64.15
When restoring a missing tooth, I would choose		
Dental implants	37	34.90
Preparation of adjacent	32	30.18

teeth and bridges		
Removable restoration/denture	34	32.07
Others	3	2.83
What factors make you decide on previous two questions		
Cost	30	28.30
Esthetics	15	14.15
Duration of treatment	26	24.52
Expected pain during treatment	35	33.01
Where did you get your information you know about dental implants		
Radio and TV	0	0
Internet and social media	19	17.92
From a dentist	73	68.86
Friends and family	12	11.32
Another patient who had dental implants	2	1.88
If you had a missing tooth, your dentist advice you to do an implant, cost was not an issue for you, would you do the implant?		
Yes	54	50.94
No	22	20.75
Not sure	30	28.30
If you needed crowns for multiple teeth, which option is better?		
Separate crowns for each tooth	17	16.03
Connected crowns	30	28.30
I don't know, would ask my dentist to decide	59	55.66
Do you think tooth cleaning can damage teeth		
Yes I think so	13	12.26
No	69	65.09
Not sure	24	22.64
Do you think tooth whitening is harmful to teeth		
Yes	17	16.03
No	64	60.37
Not sure	25	23.58
After tooth whitening at dental clinic, what would you expect to happen		
pain after whitening	10	9.43
Tooth sensitivity	26	24.52
Inflammation and gum bleeding	34	32.07
Less beautiful teeth	1	0.94
I do not know	20	18.86
Both options B and C	5	4.72
Both options A and E	3	2.83
Both options C and D	7	6.60
Do you think that tooth color will change to more dark color after the final result you got immediately after cleaning?		

No, never	25	23.58
Yes, probably	33	31.13
Rarely it may happen	48	45.28
Do you think that laser treatment for teeth and gums has good effects?		
Yes	38	35.84
No	22	20.75
Not sure	34	32.07
Never heard about such treatments	12	11.32
I refer to social media when I need to decide about the best dental treatment option:		
Always	16	15.09
Sometimes	40	37.73
Rarely	14	13.20
Never	36	33.96

## Discussion

In recent times, there has been tremendous advancement in the procedures performed at a dental clinic like introduction of dental implants and a wide variety of aesthetic procedures like teeth whitening and use of lasers<sup>[9]</sup>. The patients should be well aware of the recent advances so that they can avail these procedures at their dental clinic<sup>[8]</sup>. In addition, good oral hygiene is required to maintain an optimal general health<sup>[10]</sup>. Hence, the present study aims to evaluate the attitude of the general population in Palestine towards dentistry and dental treatment. The present study follows a cross-sectional study design which aids in providing a preliminary assessment of the attitude of the participants towards dental treatment and dentistry. The present study converted the questionnaire into local language to eliminate the bias of answering the questionnaire. Among the participants included in the study, equal distribution was seen in the sex and education level. This type of distribution made sure to include different variety of participants in the sample population and avoid bias due to sex and level of education. The present study has evaluated the perception about dentistry among the urban population.

Most of the participants visited the dentists only when in pain and very few of them followed the oral hygiene procedure twice a day. In another study by Rambabu and Koneru, dental pain is the most common reason for visiting a dental practice even in an urban area<sup>[11]</sup>. Similar results were obtained in another study by Devaraj and Eswar in 2012<sup>[12]</sup>. Another study among university students in Saudi Arabia showed that oral hygiene knowledge was relatively low among university students since they were not taught better hygiene habits at the dental office<sup>[13]</sup>. In the present study most of the participants found it necessary to replace missing teeth. However, they weren't aware of the various options available to do so and relied mostly on their dentists to choose the best treatment option for them. Similar result was obtained in the previous study by Jayasinghe et al, who showed that replacement of missing teeth has always been a priority among patients. However, they must be educated about the different types of available replacement options<sup>[14]</sup>. Another study by Narby showed that although

replacement of the teeth by prosthesis is of prime requirement, cost is what affects the choice of implant dentistry<sup>[15]</sup>. This was contradictory in the present study since half of the sample included did not consider cost as a factor in choosing implant dentistry.

Most of the participants were aware about the basic dental procedures like teeth cleaning and teeth whitening. However, most of them were not aware about the more advanced laser procedures. Additionally, the participants were unaware about the outcomes of the basic dental procedures like whitening. These results were similar to another study by AlOtaibi et al in Saudi Arabia, where the participants were aware about dental bleaching procedures by advertisement, however the participants regularly visiting the dentists were more aware<sup>[16]</sup>. Another study by Sarmadi et al says that patients find laser treatment as a convenient option, however proper education is required by a dental professional.<sup>[17]</sup> The present study gives the preliminary data of the patient's attitude towards dental procedures. It gives a need for the dental professionals to encourage patients to visit dental clinics and increase their awareness on the newer dental procedures.

## Conclusion

The present study shows that the general population had limited knowledge of the dental procedures. Although most people had knowledge about the basic dental procedures, they lacked knowledge about the advanced dental procedures. Most of the people depend on the dental practitioners to educate them about various options in dental procedures.

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