INTRODUCTION

Dental implant is an artificial root that is surgically inserted into the jawbone to support a single tooth replacement, fixed partial, complete denture or maxillofacial prosthesis.

It has become increasingly important\(^{[1,2]}\) as majority of patients treated with implant-supported prosthesis have reported improvement in their quality of life, assurance, self-confidence\(^{[3]}\) including psychological benefits and moreover conservation of the tooth structure adjacent to the teeth to be replaced. Due to its high success rates and predictability, its clinical implication is increasing rapidly.\(^{[4]}\)

The perspective and outlook of the population towards dental implants are less known. Several studies have been conducted to show the patients’ awareness about implants in different countries. Pommer et al. reported 79\% of the Austrian population expressed desire for implant treatment.\(^{[1]}\) A survey from Sweden in 1999, reported a histrionic rise in interest of implant treatment to 95\% over a period of 10 years.\(^{[6-8]}\) Chawdhary et al. reported that the level of awareness of implant treatment was 23.24\% in 2010.\(^{[9]}\) Zimmer et al. in 1992 demonstrated a high awareness rate as well as general positive attitude toward oral implant therapy.\(^{[10]}\)

Implant treatment is an increasingly popular treatment option with a high success rate. Recently, it has become the focus of the patients’ interest hence for dentist, it is vital to assess their level of knowledge...
with regards to dental implants and whether their perception of dental implants does in fact reflect reality in order to guide patients who do not have the education or background knowledge to make an informed decision between implant supported dentures and removable dentures.\textsuperscript{[7‑10]} Overall aspiration for improved oral health related quality of life has become a truth after the arrival of dental implants. Replacement of missing teeth with implant supported prosthesis has been accepted and rated as a positive experience by patients who have undergone implant treatment.\textsuperscript{[9,11]} Many studies have been done in different parts of the world with regards to the awareness of dental implants as a treatment option. An overwhelming majority of patients with severely compromised local host bone can be offered implant-supported rehabilitation with a very good prognosis and improved esthetics, phonetics and function.\textsuperscript{[2,8,9,12‑17]} Thus, the aim of the study was to assess the awareness of the patients regarding implant-retained prosthesis as an option for tooth replacement and the knowledge about tooth replacement as a whole including source of information and attitude towards it.

**MATERIALS AND METHODS**

A survey was conducted through printed and online questionnaire composing of multiple questions with the intention of evaluating dental implant awareness among the Malaysian population in 2012 (May to December). A random sampling method with convenient sample size was used. Questionnaire was prepared both in English and Bahasa Malaysia (local language) to facilitate completion and to get better understanding of the questions by the respondents’.

Most of the hospitals with a dental outpatient department and private dental clinics were included in the study. The questionnaires were handed to the patients during their regular dental visits. All the respondents were informed about the aims and objectives of the study. Those who were not willing to give informed consent were excluded from the study. So out of 1500, only 1013 respondents agreed to participate in the survey with the non-response rate 32.46%.

For the purpose of the study the Malaysian population was grouped according to:

**Gender:** Male/Female

**Age:**

a. 16-20 yrs
b. 21-40 yrs
c. 41-60 yrs
d. 61-80 yrs
e. 81 yrs and above

**Education:**

a. Up to high school
b. Up to college
c. Up to university and above

The survey form included self explanatory questions which were in correspondence to previous studies conducted Chowdhary et al.,\textsuperscript{[9]} and Berge et al.\textsuperscript{[18]}

**RESULTS**

Figure 1[a‑c] depicts the characteristics of all the respondents based on their gender, age and education levels. Based on the 1013 responses retrieved, only

![Figure 1](image-url)
9% of the respondents had undergone dental implant treatment before [Table 1]. Respondents with age group of 21 to 40 years were most well informed regarding dental implants.

Among the 1013 respondents, 17% were well informed, 41% moderately well informed, 36% poorly informed regarding different alternatives for replacing missing teeth. Most were aware of complete dentures (59%), followed closely by implant supported denture (56%) and partial dentures (55%) as an alternative for the replacement of missing teeth. 113 respondents were not aware of any alternatives given [Table 2]. Only 8% of respondents felt very well informed about dental implant, 14% well informed, 27% moderately well informed and 47% poorly informed as mentioned in Table 3.

47% of the respondents felt moderately well informed regarding the source of information about alternatives for replacement of missing teeth. Most of them stated their dentist (53.6%) followed by friend, relatives, internet, magazine and newspapers as the various source of information regarding dental implants [Table 4]. 69.9% of the respondents wished to get more information about dental implants and of those 72.16% wished it to get from the dentist, 16.5% from internet and 2.96% from friends and relatives [Table 5].

80.5% (816) of the respondents were willing to consider dental implant treatment if needed whereas 19.5% (197) refused for it.

Regarding the advantages of the non-removable vs. removable denture, 51.4% reported ‘more comfortable in the mouth’, 47.8% defined better in ‘appearance’ and 55.6% reported that non-removable dentures ‘are as good as own teeth during function’. When all the respondents were questioned on disadvantages of implant supported prosthesis most respondents’ stated high costs (80.2%) followed by long treatment time, need of surgery and inadequate knowledge as the main limitations of dental implant treatment and the major reasons for refusing such treatment options [Table 6].

**DISCUSSION**

Replacement of missing teeth by means of implant supported prosthesis for esthetic and functional rehabilitation has turn out to be an established and extensively used treatment modality in dentistry. Among the 1013 respondents in the present study, majority of those who had heard of dental implants were amongst the 21-40 year age group (54.5%) and with the education of university level or higher (62.3%). This can be attributed to the increased interest in dental treatment amongst the younger generation and changing attitudes.
Table 5: Questions on expectations about the source of information

| Would you like to get more information regarding dental implants? | N   | Percentage |
|---------------------------------------------------------------|-----|------------|
| Yes                                                           | 709 | 69.9       |
| No                                                            | 304 | 30.0       |

From where would you like to get information about dental implants?

| Television/radio | N   | Percentage |
|------------------|-----|------------|
|                  | 48  | 6.81       |

| Internet         | N   | Percentage |
|------------------|-----|------------|
| Dentist          | 116 | 16.5       |

| Relatives/friends | N   | Percentage |
|-------------------|-----|------------|
|                    | 511 | 72.16      |

| Someone who received an implant | N   | Percentage |
|--------------------------------|-----|------------|
|                                 | 21  | 2.96       |

51.4% of those questioned reported that non-removable dentures were more comfortable in the mouth, 47.8% defined it to be better in appearance and 55.6% reported it to be as good as own teeth in function. High costs (80.2%), long treatment period (41.2%) and need for surgery (37.9%) were the main disadvantages of the implant treatment according to patients. These results were consistent with the other American and Japanese studies which reported the similar results. As high costs was the main reason not to choose implant therapy, it is vital to highlight the patients that quality of life overshadows high cost of implants. The benefits and drawbacks of different types of treatment modalities should be properly explained so they can make a learned choice.

CONCLUSION

Bearing the results of our study, it is vital to raise the awareness of dental implant treatment in Malaysia. This survey among patients in Malaysia showed that the many of them were unaware about using dental implants as an option for replacing missing teeth. As dentists were the main sources of information regarding dental implants, further efforts should be made by them and the governing bodies to take necessary steps for creating awareness amongst the people. As most of the patients found dental implants treatment to be expensive and unaffordable efforts should be made to reduce the cost of dental implants to a more affordable rate. Adequate awareness and ironic, factual and exhaustive data are the indispensable tools that project dental implant-retained prostheses as the best choice for the tooth and lost maxillofacial tissue replacement. The dentist as a professional has the foremost role to play in this regard, and this can be achieved by executing patient education programmes and counseling centers on dental implant usage and advantages in order to concoct a patient’s mind.
Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

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