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KNOWLEDGE AND ATTITUDE OF DENTAL VENEERS USE AMONG THE GENERAL DENTAL PRACTITIONERS IN RIYADH CITY: A SURVEY BASED STUDY

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ABSTRACT:

Aims: To determine the knowledge of general dental practitioners.
Materials & Methods: A survey based study having utilized 420 general dental practitioners. Chi square test used to determine the significance.
Results: Males showed better knowledge than females. Work experience related comparisons were not distinctive from each other.
Conclusion: All comparison groups seemed to be well informed of the two different types of dental veneers.
Clinical Significance: Dental practitioners can benefit from the information and experiences exhibited by the Saudi GPs in this study.
Keywords: Dental veneers, practice, survey, experience

INTRODUCTION:

For nearly 30 years veneers have been used in the field of dentistry around the globe. Although they have been quite successful even then total dentists all around the world face several problems regarding the selection of the material, patient selection, designing and the preparation. Different dentists come across varying issues around the globe and are responding to them differently. The cementation and the temporization of the veneers is yet another major issue. For past 30 years the treatment of veneers has been considered as the best treatment especially because of the factors it holds with in itself of biocompatibility, strength, conservative nature and also the longevity. Its success has been largely measurable in the field of dentistry (CC, 2009).

The uses and the indication of the veneers have largely grown since the time they were incepted. When they are once used for the use of discoloration, the veneers are now mostly specified in patients who have erosion, mal-positioned teeth and also wear offs (Leonardo, 2015). Earlier veneers were suggested to patients who had a loss of vertical dimension but with the passage of time they are used in much complicated restorations since there have been quite several advancements in the technology. If the right kind planning and treatment is carried out then the outcomes which are obtained are more satisfactory and successfully predictable (Kumar, 2016).

The procedure essential in the treatment of putting up veneers requires a lot of

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favorable conditions and environment which should be created and kept in mind. With the assistance of right kind of directions and indications they usually present quite a conservative treatment which comes along with the possibility of an outcome which can produce excellent results and can also be beneficial in the long run. Usually the placement of the veneers can be selective since they are placed for certain cosmetic reasons (Herman, 2016). This is exactly why it is essential to understand that minimum destruction should be caused to the teeth and more over it should be restored in such a manner that the longevity of the tooth can be ensured. For this purpose the planning of the selection of the case, the treatment which needs to be carried out and the laboratory procedures should also be keenly observed. Since the porcelain which is used in the treatment is small and thin, still it can be a very fragile and an unforgiving material to be used (Shibata, 2016).

When working on the reproduction of the tooth it is very difficult to match the right kind of combination since there is no specific procedure which could compete with what nature has produced. It is the ultimate goal of the dentist to restore as much of the natural tooth structure as possible. It is also more essential when the work is done for elective purpose. There can be such situations where more reduction in tooth causes to have better results and outcomes. Some of the major sections which need to be appraised include the existing color, condition and the position of the tooth. While starting this procedure it is essential to note that proper evaluation and records are taken so that proper actions can be taken (Fondriest, 2010).

There are various ways through which the unaesthetic teeth can be altered and one of them is that of porcelain veneers. This treatment has gained a lot of attention from the dentists and also from the patients. The treatments have increased because of the growing awareness of dental health and also that of the technology for example the acid etching and also that of composite resin. All such features have given a huge rise to the ceramic veneers being used today. But there are always certain limitations to the kind of material or technology which are being used. The article here aims to make sure that what kind of cases are worked upon and how using the porcelain veneers (Lim, 2005).

The most common indications which tell us that one might need veneers include teeth that are mal-positioned, malformed or even rotated. The veneers might be installed in a patient because of the fact that his tooth needs to be in need of closing several diastemas so that the color of the teeth can be changed. It can also be used to restore teeth which are eroded or unattractive and can even restore such teeth which are faulty. While carrying out the treatment there are certain factors which should be kept in mind such as the hygiene, stain etiology, health, age and oral conditions.

One of the ultimate tests includes masking the tetracycline for the usage of porcelain veneers. It is quite a difficult task to create a mask for the dark color which is underlying so that the appearance of the veneer could be made better. The treatment can be considered successful if the tooth that is affected is recovered in the best way possible. Covering the middle third or incisal third teeth is more easily comparatively. The most difficult one to recover is the staining that has been caused in the gingival third of the teeth (Kourtis, 2016).

Earlier the porcelain veneers were made using the formulations which were made up of the feldspathic. But now certain formulations have been developed which include the glass ceramic which are superior in their strength and are more resistant to the chippings which have been designed over the period of time. These chippings are now being used in contrast to the ones which were used in previous times. According to one of the most profound doctor, Nohl, it is important that the patient is understood in the best manner possible which includes his aesthetic issues (Sahibata, 2016). If this is done in the best manner only then the expectations can be turned into reality. One way is to go for an approach which is instrumental and strategic. This is because it is the most effective and most conservative approach to the case of the patient (Kumar, Restoration of Permanent Central Incisors with Porcelain Laminate Veneers in a Paediatric Patient: A Clinical Report., 2016).

When carrying out an aesthetic treatment it is essential that the result which is expected should be visualized as soon as possible when the treatment is being carried out. This is so because this ensures that the result which is being visualized by everyone involved is having the same end point. This also makes is easy to change what so ever errors need to be edited before the final cementation is done. The usual first step which is involved in the veneer is that of diagnosing the wax up. The wax up carried out should be a clear picture of the final result which expected by both the patient and the doctor. The main agenda in the veneer is to make sure that the enamel which exists should be preserved as much as possible. Over the period of time, surface wearing and the erosion have been contributing to the thinning of the enamel that is already there. If the enamel is lost, then in the final step of the wax up the technician who is working on the case should contribute by bulking out on the tooth where ever it is needed. This creates a twofold effect in making the tooth more strengthened and making the preservation more long lasting (Jallal, 2016).

2. Aims of the study:

- Proper indication of the veneer cases
- Understanding the crucial steps in the treatment

- Comparing the performance of cases in Saudi with other countries.

MATERIALS AND METHODS:

The study carried out here is a cross sectional study with uses a survey which is close ended in nature and carries several questions with regard to the varying cases of veneers and how they are dealt in Saudi Arabia. The sample size which was used in the study was 420. The data was gathered and aligned and afterwards it was run through SPSS version 21 and analyzed. The study participants were divided into two groups of gender and work experience. Comparisons will be made using cross tabs with Chi-square test.

Measuring Instrument:

The survey constructed for this study consisted of questions such as gender, work experience, type of veneer fabricated in mouth, veneer tolerated by gingivae, having more esthetical stability, which veneer is repairable, patients' knowledge about veneers, cost effecting the decision and selection of veneer type depending on the patients' age.

4. Time line & schedule:
Preparation time: 1 month
Research duration: 3 months
Write up: 1 month
Research budget: Private.

RESULTS:

The result which was obtained in the survey which was carried out was based on two major comparisons which were gender comparison and work experience comparison. The results individually are discussed below.

5.1. Gender Comparison:

When the participants in the survey were questioned about which type of veneer could be best fabricated in the mouth, from all the people who answered about 85% of women and 73% of men answered Composite as being the best choice. The next question they were asked that which type of veneers did they assume the gums tolerate the best. On this, nearly 77% of women and 50% of men equally thought that Porcelain is a better choice. The next question which they were asked was that which veneer they thought was more aesthetically stable. On this about 85% of women dentists and 88% of men dentists thought that Porcelain was a good choice. Next, the question was which type of veneer did the dentists thought was repairable. On this about 91% of women and 97% of men answered that they thought that Composite was a better choice (Figure 1). Another question which was asked was how well the patients who came to them did know about the veneers. On this 8% of women gave a positive response about knowing about the veneers whereas only 3% of men agreed that their patients knew enough. The doctors were also asked if their patient’s decision was altered because of the expense that usually occurs. On this, 23% of women regarded that the decision was affected but the

rest of 27% men answered that they weren't affected by the cost that occurred. The question if the veneer type depends on the age of the patient, about 23% of women and 54% of men agreed that age did matter while selecting the veneer. Lastly the dentists were asked if they knew enough about the veneers themselves and it could be concluded that women knew about it as compared to men (Table 1).

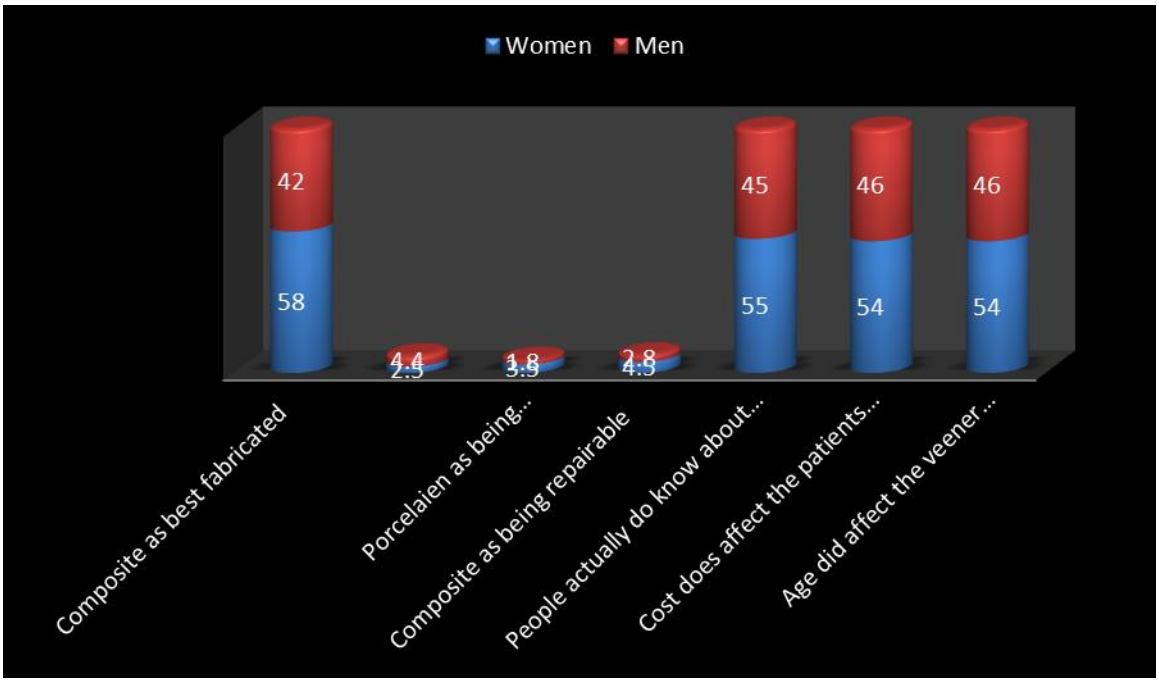

Figure 1: Gender Comparison

Variables	Percentage		
	Composite	**Porcelain**	
Which type of veneer can be Fabricated in Mouth	Male 85% Female 73%	Male 15% Female 27%	
Which type of veneers can be Tolerated well by Gingivae(gums)	Male 23% Female 25%	Male 77% Female 50%	
Which type of veneer is more Aesthetically Stable	Male 15% Female 12%	Male 85% Female 88%	
Which type of veneer is Repairable	Male 97% Female 91%	Male 3% Female 9%	
How do you rate the Patients' Knowledge about veneers	Poor Male 69% Female 73%	Moderate Male 23% Female 24%	Excellent Male 8% Female 3%
Does Cost Affect Decision making from the patients' side?	Never Male 15% Female 6%	Sometimes Male 62% Female 67%	Always Male 23% Female 27%

Selection of veneer type Depends on Age of patient	Yes Male 23% Female 18%	Maybe Male54% Female 27%	No Male 23% Female 54%
Do you think you have enough Knowledge of using dental veneers	Yes Male 38% Female 18%	Maybe Male 31% Female 36%	No Male31% Female 45%

Table 1: Gender comparison for the questions asked in the survey

5.2. Work Experience:

When the participants in the survey were questioned about which type of veneer could be best fabricated in the mouth, from all the people who answered about 92% with under five year experience, 67% with five to ten years of experience and 63% with more than ten years of experience answered Composite as being the best choice. The next question they were asked that which type of veneers did they assume the gums tolerate the best. On this, nearly 85% with less than five year experience, 89% with five to ten years of experience and 88% with more than ten years of experience equally thought that Porcelain is a better choice. The next question which they were asked was that which veneer they thought was more aesthetically stable. On this about 95% with less five year experience, 89% with five to ten years of experience and 75% with more than ten years of experience of men dentists thought that Porcelain was a good choice. Next, the question was which type of veneer did the dentists thought was repairable. On this about 95% with under five year experience, 78% with five to ten years of experience and 86% with more than ten years of experience answered that they thought that Composite was a better choice. Another question which was asked was how well the patients who came to them did know about the veneers (Figure 2). On this 0% with less than five year experience, 0% with five to ten years of experience and 12.5% with more than ten years of experience agreed that patients knew about it. The doctors were also asked if their patient's decision was altered because of the expense that usually occurs. On this, 25% with less than five year experience, 33% with five to ten years of experience and 25% with more than ten years of experience agreed that it did affect the patient's decision. The question if the veneer type depends on the age of the patient, about 23% with under five year experience, 0% with five to ten years of experience and 25% with more than ten years of experience agreed that age did matter while selecting the veneer (Table 2).

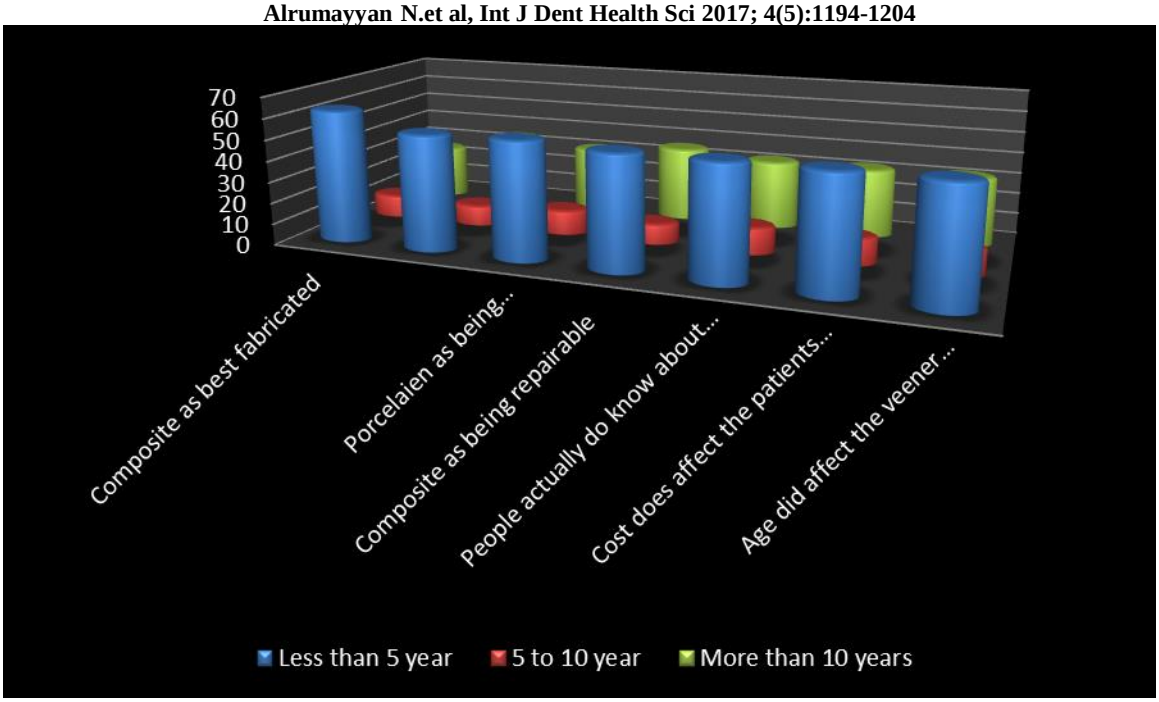

Figure 2: Work Experience Comparison

Variables	Percentage		
	Composite	**Porcelain**	
Which type of veneer can be Fabricated in Mouth	Under 5 years 92% 5 to 10 years 67% More than 10 years 63%	Under 5 years 8% 5 to 10 years 33% More than 10 years 38%	
Which type of veneers can be Tolerated well by Gingivae(gums)	Under 5 years15% 5 to 10 years 11% More than 10 years 13%	Under 5 years85% 5 to 10 years 89% More than 10 years 88%	
Which type of veneer is more Aesthetically Stable	Under 5 years5% 5 to 10 years 11% More than 10 years25%	Under 5 years95% 5 to 10 years 89% More than 10 years 75%	
Which type of veneer is Repairable	Under 5 years95% 5 to 10 years 78% More than 10 years 86%	Under 5 years 5% 5 to 10 years 22% More than 10 years 14%	

How do you rate the Patients' Knowledge about veneers	Poor Under 5 years 77% 5 to 10 years 33% More than 10 years 75%	Moderate Under 5 years 23% 5 to 10 years 67% More than 10 years12.5%	Excellent Under 5 years0% 5 to 10 years 0% More than 10 years 12.5%
Does Cost Affect Decision making from the patients' side?	Never Under 5 years 15% 5 to 10 years 0% More than 10 years 0%	Sometimes Under 5 years 60% 5 to 10 years67% More than 10 years 75%	Always Under 5 years 25% 5 to 10 years 33% More than 10 years 25%
Selection of veneer type Depends on Age of patient	Yes Under 5 years 23% 5 to 10 years 0% More than 10 years 25%	Maybe Under 5 years 38% 5 to 10 years 0% More than 10 years 63%	No Under 5 years 38% 5 to 10 years 100% More than 10 years 12%
Do you think you have enough Knowledge of using dental veneers	Yes Under 5 years 38% 5 to 10 years67% More than 10 years 0%	Maybe Under 5 years 31% 5 to 10 years 0% More than 10 years 50%	No Under 5 years 31% 5 to 10 years 33% More than 10 years50%

Table 2: Comparison on the basis of work experience

DISCUSSION:

It was stated in a research carried out by James, that the reduction in the tooth should be reduced so much so that the goals associated with the patient. The quality of the patient's procedure is highly affected with the kind of preparation that is done. It can be both heavy and light. The low preparation is more accurate when the tooth alignment or the symmetry of the tooth needs to be fixed. It is also favorable when the morphology of the surface needs to be increased. The best example for the least preparation includes the teeth which do not have diastemas. But the minimal preparation cannot be a good choice when the alteration is huge and the brightness needs to be altered greatly. There are certain requirements such as the prepping and shaping of the teeth when the teeth are treated with the direct composite veneers or the porcelain veneers. This is one reason why Greg mentioned that it is a good step if the dentists make the patient undergo proper teeth whitening since they might expect result where they

have brighter and whiter teeth than before. If the teeth are a bit misaligned then the patient must be treated with orthodontic treatment as well (Greg, 2014).

As stated in the research which was carried out by the American dentistry, it was mentioned that since each veneer is made especially for a specific person therefore it is not easy to distinguish between the natural tooth and the veneer. Since they are unnatural therefore they can easily resist the stains which are caused by tea and coffee. Unlike crowns the veneers are not greatly altered rather a lot of work is only carried out in making the natural teeth adjustable to it. There are certain teeth which resist in the process of whitening but veneers produced the best whitened teeth. Veneers are also highly recommended when there are small gaps, twists or even overlaps.

In another article by Roger (Roger, 2004), it was acknowledged that the procedure of inserting the veneer is confined to all the areas that are peripheral and are included in the areas of the enamel. This is to ensure that the sealing has been done in the best way possible by creating a normal bond. The impressions that are carried out in the end should be made sure that they are extremely smooth in the procedures which are carrying out the impressions and the laboratory measures. In usual cases the veneer does not penetrate itself into the dentin. But in some cases it is essential that the treatment is carried deeper than the enamel since at times the banding in the third teeth and can be easily seen through the veneer if opaque.

As stated by Galip (Gürel, 2007), while the treatment of a maxillary tooth which has a veneer is being worked upon, it is essential the dentist must look over keenly. Although the preparation might seem quite very simple but it is important that special care is taken so the limitations of the enamel are not exploited in accordance with its own merit. To give back a healthy gingival tissue it is essential that the excess cement is removed. If the veneer is carried out carefully then it is possible that the patient is given the best aesthetic result as possible.

Also, Adam (Stabholz, 2010) , stated that the surface that lies in the inner side of the veneer must be attached with the 9.5% of the hydrofluoric acid for about 20 seconds or maybe even 60 seconds. The acid that is being used should be cleansed with air and water spray and after that the porcelain is placed in the container with water that is distilled. After that, it should be kept in the ultrasonic bath so that any extra residue is removed easily. The restorations are then removed and then dried. All such steps are extremely important since they all play a very essential part in setting up the veneer.

CONCLUSION:

The porcelain veneers have turned out to be a really good aesthetic and conservative treatment that can be used.

Like all other treatments there are certain limitations to this treatment as well and one of the major reasons that cause failure is the lack of the enamel. When the patient is being treated by the porcelain veneer it is essential that most favorable situation is in the treatment are assessed. If in case extra enamel is asked to be removed or even if it is not turning out favorable on dentine then there should be any kind of treatment which can be used as an alternative for example, peridontics or even orthodontics. It is very essential that the right kind of protocols is being followed and the right kind of thickness is being followed in the composite. If the ratio is enlarged it might create a polymerization and shrinkage in the cement and that can cause a fracture in the porcelain veneer. Any kind of crack can turn out to be a major complication in the veneer.

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