

Awareness of usage of Vicryl suture material in oral surgical procedures

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ABSTRACT

Oral surgical procedures constitute a very important part in the broad scope of general dentistry. This necessitates a significant need for dental students to know about the suture materials. This study aims to assess the awareness of Vicryl suture material in dental surgical procedures. The descriptive survey was attended among 237 dental students. Results were analyzed using Microsoft Excel and using SPSS software version 23.0. The majority (96%) of the dental students were aware of Vicryl suture material. Approximately 75% and 66% knew that Vicryl suture was absorbable and braided, respectively. However, only 33% knew that Vicryl suture would get fall off in 2 weeks. According to the statistics, there is no significant difference between gender and awareness of Vicryl suture material (Chi-square; $P = 0.14$, not significant). Dental students have adequate knowledge about Vicryl suture material.

Key words: Innovative, knowledge, oral surgery, Vicryl suture, wound closure

INTRODUCTION

Primary wound closure is required for most of oral surgical interventions using an already raised flap. The stretching capacity of the suture, the safety of the knot, its reaction to the surrounding tissue, and the safety of the wound are the important features of the suture material. The material of choice of suture influences the healing of the incised soft tissues other than the technique used for suturing.^[1-4] Materials used for suturing also facilitate and promote healing and hemostasis. Materials used for suturing are used day-to-day in dental surgical procedures and they are most frequently implanted in the human body.^[5,6]

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The most common complication in conventional surgery is surgical site infections. Numerous risk factors are found to be the reason for the development of poor wound healing.^[7,8] One of such factor is suture material. Vicryl suture material is said to have faster wound healing properties and prevent microbial colonization.^[9] Good adaptation in the suture will allow the healing to occur faster.^[4] Support for the tear is only needed when the tissues can withstand functional forces.^[3,6,10]

Vicryl also enhances the healing process in humans and it also reduces the dehiscence incidence and also causes mild local reactions.^[11] It is also shown that Vicryl causes lesser local reaction than with applied catgut or Dexon.^[12] Since the material used for suturing used in surgical procedures plays a vital role in postsurgical injury alleviation, this survey aimed to analyze the awareness of Vicryl suture material in oral surgical procedures. Numerous studies with extensive knowledge and research experience by our team have been done previously.^[13-38]

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MATERIALS AND METHODS

A retrospective study was done through Google Forms. All the dental students who were interested to take up the survey were involved in the study. The survey consisted of 14 semi-closed prevalidated and reliable questionnaires based on the Vicryl suture material. Two hundred and thirty-seven dental students participated in the survey. The people involved in the study were two, one investigator and one principal investigator.

Consent from the participants had been obtained through orally after explaining the need for the study. From the institutional research committee of the author's university, prior consent was obtained to carry out the study. Study was agreed by the university ethical clearance committee (IHEC/SDC/PROSTHO/21/114). The pros of the study is that it was done through online Google Forms and it was less time-consuming than offline surveys. The cons of the survey is that it took place in only one geographical area (Chennai city). Data were tabulated and analyzed using SPSS software version 1.0.0.1347 64 bit (IBM corp., NY, USA).

RESULTS

A survey was conducted among 237 dental students in Chennai city. About 48% and 52% of the dental students were male and female, respectively. Among them, 96% knew about Vicryl suture material and 2% did not know about Vicryl suture material [Figure 1]. Out of that, 74% knew that Vicryl suture material is absorbable. About 45% think that after 1 week, the Vicryl gets worn off and about 33% think that after 2 weeks and about 22% think that after 3 weeks the Vicryl suture will fall off. About 66% claimed that Vicryl suture material was a braided suture. About 68% claimed that they knew about the complications of Vicryl suture material [Figure 2]. The association of gender with the awareness of Vicryl suture material is shown in Figure 3. The association of gender with the awareness of complications of Vicryl suture material used is shown in Figure 4. The association of gender with the awareness of the time taken for the Vicryl suture material to fall off is shown in Figure 5.

DISCUSSION

For most of surgical procedures that include cutting or injury to the tissue, suture does a major role in the process of healing.^[39] Proper adaptation of sutures promotes the rate of healing.^[40] Suturing helps in the prevention of secondary infection and it also helps in the primary healing of the wound. Hence, the choice of suture material, suture technique, and suture needle is essential in dentistry as these assist in the proper incision and also maintain the integrity of the tissue.^[41] An ideal suture material should have better clinical behavior, traction resistance, stability in dimensional,

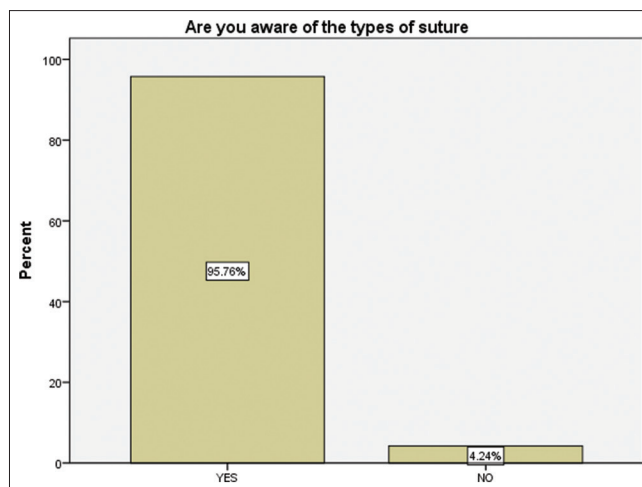


Figure 1: Bar graph showing the knowledge about Vicryl suture material

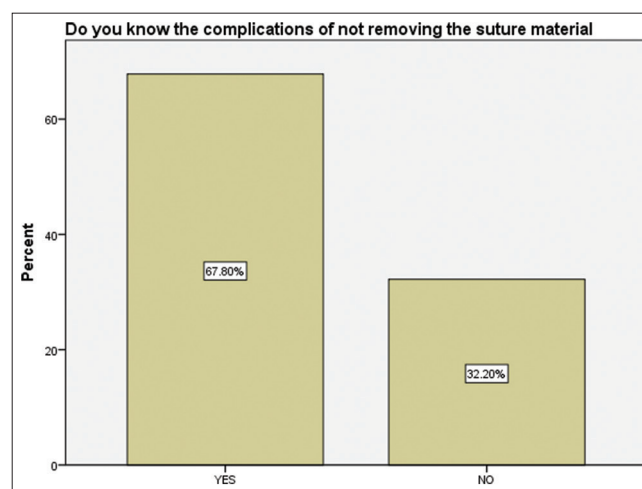


Figure 2: Graph showing the awareness of complications of not removing the suture material by the dental students

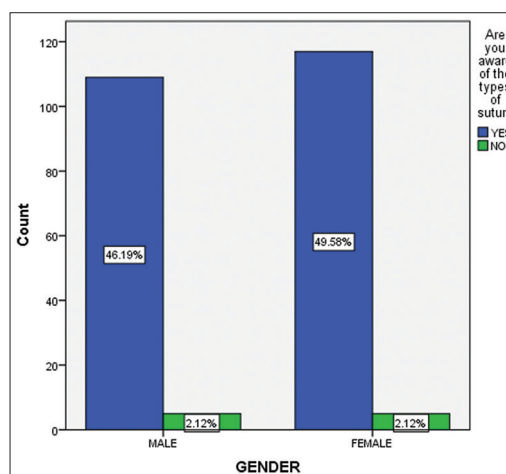


Figure 3: Association between the gender of the dental students and the response given by them on the awareness of the Vicryl suture material. (Chi-square; $P = 0.58$, not significant)

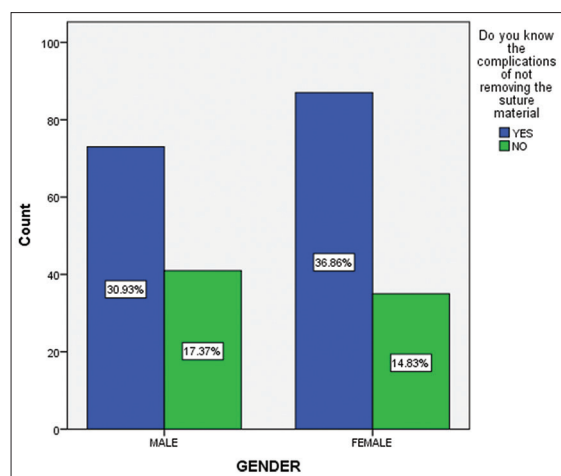


Figure 4: Association between the gender of the dental students and the response given by them on the awareness of the complications on not removing the suture material (Chi-square; $P = 0.14$, not significant)

less memory effect, good security of knot, better flexibility with mild capillary reaction, and should have biological compatibility.^[11] The rationale of the study is to evaluate the awareness of Vicryl suture material among dental students as it may act as a guide to understand its importance for future surgical procedures.

For medical and dental surgical procedures, many suture materials are available. The nature and the type of the suture material and its interaction with the tissues around it and the process of the healing should be made aware to the surgeon.^[42]

A study by Gazivoda *et al.*^[12] stated that more wound alleviation was obtained with Vicryl Rapide in comparison to catgut and Dexon. Another study by Kushwah *et al.*^[38,43] concluded that Vicryl provides a better response than catgut and Dexon.

A study by Reddy and Aishwarya Reddy^[44] stated that about 91% of dental students were aware of the various suturing techniques. In our study, about 96% were aware of the Vicryl suture material. The results of the present study were in concordance with the literature. The study also stated that about 37% of dental students thought that the best time for suture removal was 2 weeks. In our study, about 33% thought that after 2 weeks, the Vicryl suture will fall off. The present study was in concordance with the literature.^[45,46]

CONCLUSION

From the study, we found that dental scholars were apprehensive of the Vicryl suture used in minor oral surgeries. Awareness on the difficulties, timing and nature of the Vicryl suture material should be created among the students as it helps in their dental practice. This study in

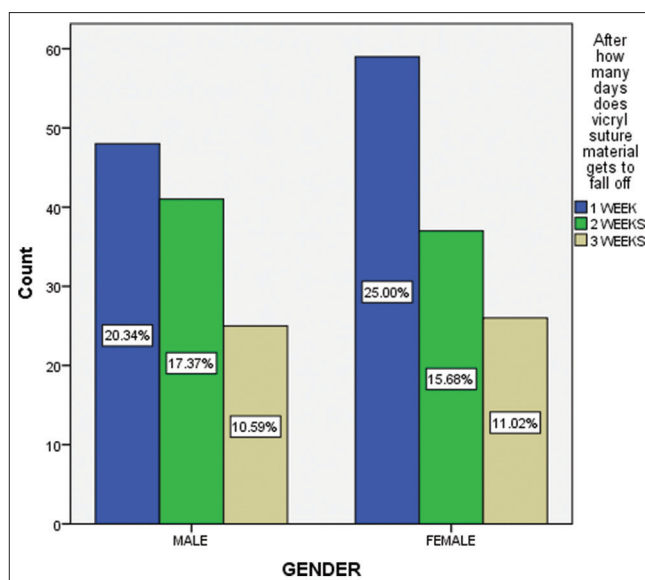


Figure 5: Association between the gender of the dental students and the response given by them on the timing on which the suture material falls off (Chi-square; $P = 0.58$, not significant)

the future will perform as a guide to understand awareness of Vicryl suture material used in minor oral surgical procedures.

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Conflicts of interest

There are no conflicts of interest.

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