



Research Paper

Knowledge, Attitude and Practice Regarding Soft Liners in Complete Denture: A Survey among Gujarat Dentist

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Abstract

Background: The most common complaint seen with that patient is ill fitting dentures, constant irritation, and inability to eat with dentures. These problems seem to increase as dentures get older as all patients inevitably suffer from residual ridge resorption. Although new dentures are superior and more reliable method to treat such patients, denture relining can be used for short duration to help the patient improve the function.

Aim and Objective: This study was designed to evaluate the knowledge, attitude and practice regarding relining among dental practitioners with different training levels like undergraduate and postgraduate and those undergoing post-graduation training.

Materials and Methods: In this questioner based survey total 105 dentists participated via Google forms. Survey questions were framed aiming to collect general information and knowledge, attitude and practice towards relining. The results obtained from the survey google forms were analyzed.

Results: Amongst 105 practitioners 36 were B.D.S., 35 were M.D.S and 31 were Post graduate students and 92.2% of them well verse with removable prosthodontics and were aware regarding different treatment modalities in removable prosthodontics. Amongst all practitioner 89.2% are aware about different relining procedures.

Conclusion: Within the limitations of the study, it was concluded that most of the practitioners (89.2%) have knowledge about relining and its uses but aren't aware about different materials and its recent advances and common complications encountered and how to rectify them. This survey shows that MDS and PG student have greater overall understanding regarding relining material and technique than BDS. Knowledge and awareness should be increased amongst dental practitioners by workshops and including all this in undergraduate curriculum

Key Words: soft liner, KAP survey complete removable denture, reline, relining

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I. Introduction

India holds the world's largest population and is also home to one of the largest elderly population. Most of the elderly patients are suffering from age related health problems. They may be suffering from systemic conditions like diabetes, hypertension and suffer from anorexia and malabsorption.^[1] Above factors and local factors like periodontitis and caries shows a great rise in elderly patients which ultimately leads to partial and complete edentulism.^[2]

Rehabilitation of elderly patients suffering from partially and complete edentulism is a challenging task for a prosthodontist. Patients may be suffering from systemic and degenerative conditions which hamper the dentist from providing patients with a fixed prosthesis.^[3, 4] Most common and most readily available means of rehabilitation for such patients is through removable prostheses which is also a cost effective treatment option.^[5]

Complete denture construction aims to achieve close adaptation between the denture base and its supporting foundation. Increasing the functional life of dentures is a significant problem in prosthodontics because as the age advances residual ridge resorption (RRR) takes place.^[6] RRR is determined by age, gender and underlying systemic condition like diabetes and calcium metabolism. RRR might cause dentures to lose its close adaptation ultimately leading to sore spots, pain and difficulty in chewing food. Periodic maintenance is necessary for dentures to offer optimal patient care throughout time.^[7]

Relining is the process of resurfacing the denture bearing area to increase the adaptation and enhance its fit.^[8] Relining aims to maintain the jaw relations while increasing the tissue adaptation.^[9, 10] Soft liners are viscoelastic material. They dampen the forces directed towards the foundation and spread them uniformly and increase the tissue adaptation. The soft lining material uniformly distributes stress at the mucosa/lining contact.^[11] This reduction in forces is appropriate for ridges with multiple osseous undercuts, thin, non-resilient mucosal coverage, persistent denture sore mouth, and knife-edge mandibular ridges and prosthodontic restorations for congenital or acquired oral defects.^[12]

Denture relining can be done either direct chair side or indirect laboratory procedures. Soft liners primarily divided into silicone based and acrylic based. Understanding the therapeutic indications and limits of these materials and methods is essential for their effectiveness.^[13, 14]

With so many choices of materials available in market, clinicians often struggle to decide which is best for the patient. The main purpose of this article was to evaluate the knowledge, attitude and practice of dental practitioners with different levels of training like undergraduate (BDS), postgraduate (MDS) and those undergoing post-graduate towards various soft liners.

II. MATERIAL AND METHOD

There was a survey conducted for different level of practitioners, undergraduate (BDS), postgraduate (MDS) and those students undergoing post-graduate regarding knowledge, attitude and practice towards soft liners.

In this survey total of 105 dentists participated. The questionnaire was constructed and responses were collected regarding specialty of dentists, their knowledge, attitude and practice towards different resilient liners, its indications, its usage, and its frequent replacement and its maintenance.

This questioner included 24 questions, where 8 questions to evaluate the knowledge, 8 questions to evaluate the awareness and 8 questions regarding their practice in relation to soft liners.

Are you aware about different treatment modalities for completely edentulous patient?

- Yes
- No

Do you agree that complete denture is a viable treatment option?

- Yes
- No

How frequently do you fabricate complete denture prosthesis?

- Often
- Occasional
- Seldom

Are you aware about importance of healing period before complete denture fabrication?

- Yes
- No

Do you think clinician should wait for complete healing before complete denture fabrication?

- Yes
- No
- Depends on case

How long do you wait after last tooth extraction before complete denture fabrication?

- Immediate
- 4 weeks
- Depends on case

Are you aware about causes of abused tissues?

- Yes
- No

Do you think abused tissue should be treated before complete denture fabrication and during its use?

- Yes
- No

How do you manage patients with abused tissue?

- Discontinue denture
- Oral massage
- New denture
- Tissue conditioner
- All of the above

Are you aware about concept of relining?

- Yes
- No

In which cases would you advise relining?

- Denture with decreased retention
- In case of abused tissue
- Deep bony undercuts
- Denture with decreased vertical height

In practice how often do you reline denture?

- Often
- Occasional
- Seldom

Are you aware of different types of relining techniques?

- Yes
- No

Do you think choice of technique is important for relining?

- Yes
- No

In practice which technique do you use for relining?

- Chair side
- Laboratory
- Depends on the case

Are you aware about different materials used for relining?

- Yes
- No

Do you think choice of material is important for relining?

- Yes
- No

What is your material of choice for relining?

- Soft reline, GC (Acrylic based)
- Mollosil, Detax
- Avic soft liner
- MAARC soft liner
- Depends on case

Are you aware about need for replacement of relining material?

- Yes
- No

Do you think relining material needs to be replaced?

- Yes
- No
- Depends on case

How frequently do you advise the relining material be replaced?

- 2-3 weeks
- 1 month
- 6 month
- Depends upon the material used

What are common complications of relining material? (Multiple choice based)

- Discoloration
- De-bonding
- Loss of elasticity
- Fungal infection

Are you aware about maintenance of relined complete denture?

- Yes
- No

Do you give maintenance instructions to patients treated with relined complete dentures?

- Yes
- No

Figure 1: Questionnaire used for the study

III. RESULTS

There were in total of 105 participants, and graphical representation of the participant distribution is as below.

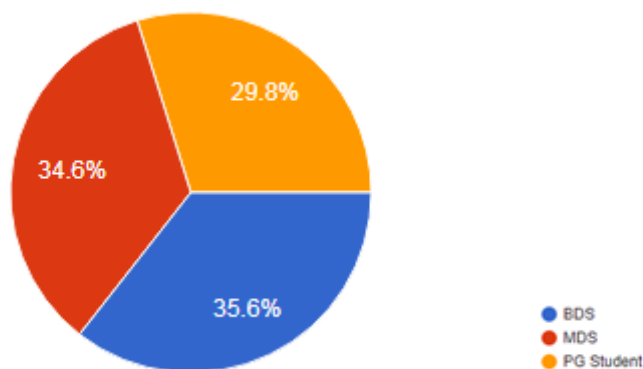


Figure 2: Participants in the survey

Almost all the participants (92.3%) were aware about the different treatment modalities related to complete denture. Majority of the participants (81.7%) were in agreement that complete denture is a viable treatment option. Among all the participants 47.1% fabricated complete dentures on regular basis, 27.9% fabricated complete denture on seldom basis and 25% fabricated complete denture occasionally.

Most of the participants (83.7%) were aware about the importance of healing period before fabrication of complete denture. Amongst them 51% participants advised to wait for complete healing before fabrication of complete denture, 40% participants agreed to wait for healing period on the bases of case, 8.7% did not advise to wait for healing before complete denture fabrication. Most of the participants (60.6%) waited for complete denture fabrication after last tooth extraction depending upon the case, 26.9% fabricated complete denture within 4 weeks after last tooth extraction and 12.5% fabricated complete denture immediately after last tooth extraction.

Majority of the participants (82.7%) are aware about the cause of abused tissue and 84.6% agreed to treat abused tissue before complete denture fabrication. Participants were given different options to treat abused tissue, their choice of treatment is as depicted in pie chart below.

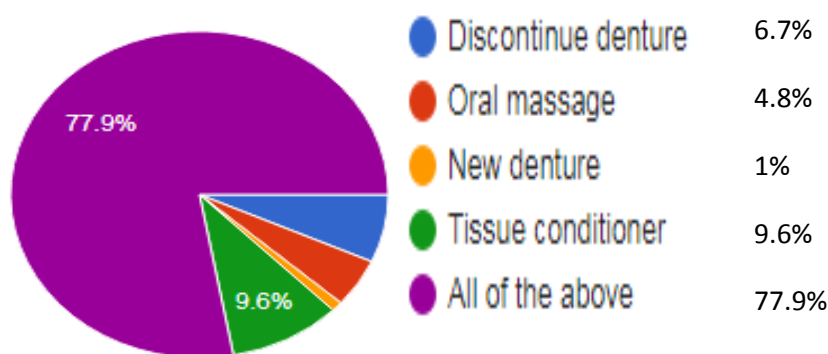


Figure 3: Different treatment options to treat abused tissue

Most of the participants (89.4%) are aware about the concept of relining. Their preference for clinical cases requiring relining is as below.

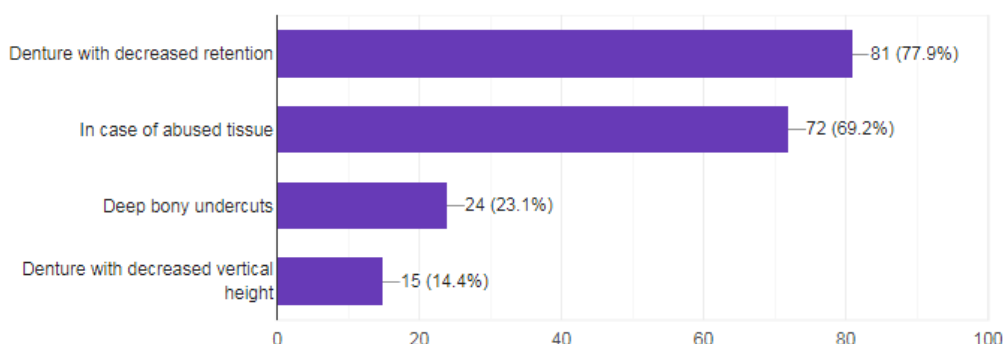


Figure 4: Indications of soft liners

28.8% used relining on regular basis, 30.8% of the seldom used relining and 40.4% occasionally opted for relining.

Most of the participants (79.8%) are aware about different relining technique and they agree (87.5%) choice of relining technique is also important, with 46.2% agreeing that technique varies with case, 29.8% preferring chair side relining and 24% preferring lab relining.

Most of the participants (84.6%) were aware about different relining materials and 89.6% giving equal importance to choice of material according to case.

Material of choice for participants (59.6%) varied with cases, 13.2% preferring mollosil, Detax, 15.4% preferring soft reline, GC.

84.6% were aware about replacement of soft liner, and 83.7% agreeing to replace material on regular intervals. Frequency of replacement preferred by participants is as below:

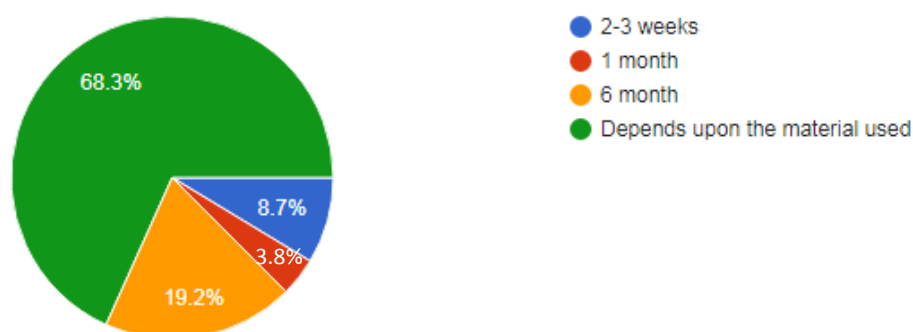


Figure 5: Frequency of replacement of soft liner

Common complications seen with relining materials are as below:

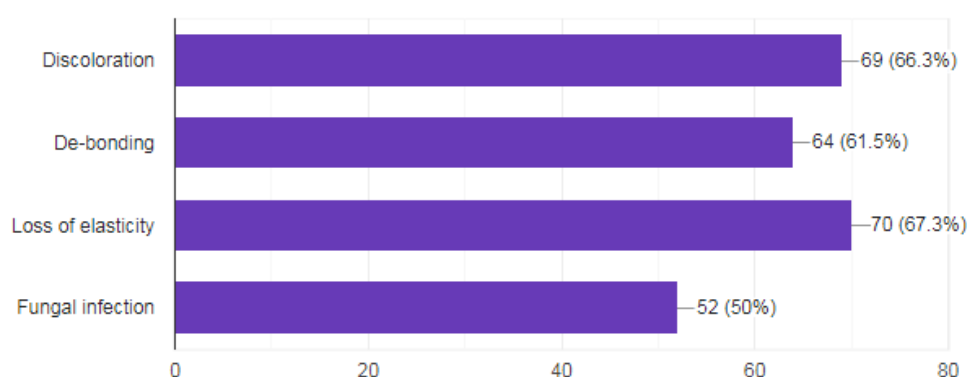


Figure 6: Common complications of soft liner

84.6% of the participants are aware about maintenance protocol and 83.7% of the participants give maintenance instructions.

IV. Discussion

Majority of the dental practitioners come across completely and partially edentulous patients in their regular practice. Complete dentures are the most common mode of rehabilitation chosen. Soft liners are very essential as they may be indicated for cases with non-resilient mucosa, knife edge ridge, sever undercuts and persistent sore mouth.^[15]

The study consisted of responses of 105 participants with equal amount of BDS, MDS and PG students, 92.3% were aware about treatment modalities regarding complete denture and 47.1% of them fabricated complete dentures on regular basis, while 27.9% fabricated complete dentures on seldom basis.

Most of the practitioners felt that waiting for healing period before complete denture fabrication plays a crucial role (87.35%). These results are positively supported by Babiuc I et al, where author states that allowing for rest of denture foundation tissue plays a crucial role in denture success. 51% of them agreed to wait, before denture fabrication and 40% decided to wait based on cases.^[16]

Most of the participants (83.7%) were aware about the cause of abused tissue below complete denture and agreed that tissue conditioning is important before denture fabrication. This was supported by Robert Lyte et al where he showed that ill-fitting dentures will show tissue deformation and sore spots.^[17] According to Klein IE et al, different methods to achieve tissue condition are discontinuing dentures, oral massage, tissue conditioners and new denture fabrication if denture is ill fitting.^[18] Most of the practitioners (77.9%) used all the methods for tissue conditioning.

Most of the practitioners (89.4%) were aware about relining and its importance but only 28.8% used relining on regular basis. Majority of participants (77.9%) said that relining improved adaptation of dentures and can be used to improve retention and treat abused tissue. This was positively supported by Hristov et al who stated that relining the dentures improves denture adaptation to denture bearing mucosa.^[19]

Most of the participants (79.8%) are aware about relining technique, with 46.2% responding that technique varies according to the case and 29.8% opting for chair side reline and only 24% opting for lab relining. All the available soft liners are auto polymerizing or heat cure, if a soft liner has to be used for long

duration heat cure soft liners can be used, if soft liners have to be used for short duration auto polymerizing will be used.^[20]

There are lots of commercially different soft liners available; choice of materials becomes a difficult process. About 59.6% said the choice of material varies according to case; a tissue conditioner is required for treating abused tissue while for deep undercuts heat cure soft liner is required.^[21] About 68.3% said the replacement of soft liner varies according to case and material used. Tissue conditioners which are to be used for a short duration require a faster replacement. Whereas a silicone based or acrylic based heat cure soft liner may require replacement about 6 month interval.^[22]

Common complications seen with soft liners are 66.3% discoloration, 61.5% debonding, 70.3% loss of resiliency 50% fungal infection. Soft liners have a higher concentration of plasticizers which are lost due to solubility causing loss of resiliency and discoloration occurs because soft liners are porous and absorb water which leads to fungal infection.^[23]

The major limitation of the study was it was conducted among dental practitioners of Ahmedabad, Gujarat. So, drawing firm conclusions and generalization of the study outcomes to entire dental fraternity in India is not possible.

V. Conclusion

This study investigated the knowledge, attitude and practice of dental practitioners regarding soft liners. It was seen that most of the participants were aware about different types of materials, technique and its indications and complications but weren't aware about care of abused tissue, importance of healing period and frequency of replacement. This necessitates the need for more extensively training regarding soft liners and awareness regarding recently available materials and advances.

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