

Assessment of Denture Hygiene Knowledge, Attitude and Practice among Under Graduate Students on Denture Wearers - A Cross Sectional Survey

Dr. Geetha. K. R. M.D.S¹, Dr. Prabhu M. D. S², Elakiya .V B.D.S. CRF³, Pavithra. K B. D. S. CRF⁴

Thai Moogambigai Dental Collage and Hospital, Dr. M. G. R. Educational and Research Institute, (Deemed to be University), Chennai

Abstract: Background: Maintenance of denture prosthesis is important for the health of patient. Denture hygiene education is given by the Undergraduate students at the time of the denture delivery, thus improving the standard of care for patient. In this study to establish the Undergraduate students view regarding the denture hygiene knowledge. Aim: Aim of the study was to assess the denture hygiene knowledge among the undergraduate students practicing denture prosthesis. Materials and methods: A total of 20 cross sectional survey. Questionnaire was distributed among 100 undergraduate students. Data were statistically analysed. Result: Questionnaire result showed that the age of participated undergraduate students range from 20-24. This study conclude that 59% of undergraduate students agreed that explaining denture hygiene instruction to old patient is time consuming. Conclusion: This study concluded that the undergraduate students has limited awareness about denture hygiene knowledge

Keywords: Denture hygiene -Attitude-knowledge-Questionnaire

1. Introduction

Complete dentures are used for replacement of the whole set of lost tooth within the dental arch therefore to replace the esthetic and functional conditions of the patients to keep up an odor-free dentures.^[1]

The retention of the denture, its occlusal relations, age and hygiene of the denture are the foremost important etiological factors that successively contribute to the occurrence of unfavourable effect in oral cavity as a result of denture use.^[2]

Placement of denture within the mouth produces profound changes in the oral environment that will have an adverse effect on the integrity of the oral tissues.^[3-5]

The primary objective of maintaining the denture hygiene is to stop the incidence like angular cheilitis, burning mouth syndrome, mouth lesion, denture irritation dysplasia, gagging, dental caries and periodontal disease within the mouth.^[6] In old patients, care of the oral mucosa and

integrity with the fully/ partially edentulous mouth are vital for overall health.^[11]

By getting rid of the plaque adhering from the denture can successively eliminate the reason behind denture stomatitis and the presence of micro-organisms on the denture. Reservoir of micro-organisms involved in systemic diseases like bronchopneumonia, carditis and diabetes.^[12]

The surface of oral cavity coated with a thick precipitate of secretion like compound protein and immunoglobulin usually termed as a pellicle.^[22] This pellicle successively provides a substrate to that debris like mucin, food particles, desquamated epithelial cells and microorganisms like bacterium and fungi adhere.^[22] Certain adherent microorganisms convert materials like sucrose and aldohexose within the mouth into plaque when that they will expand and endure additional proliferation. Therefore, it's considerably essential to remove the oral debris mechanically, chemically or through a combination of both.^[20]

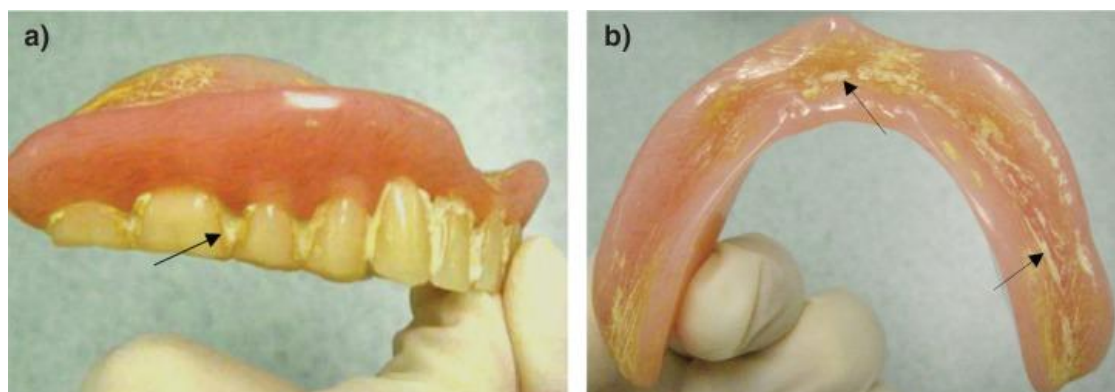


Figure 1: Heavy encrustation of calculus and plaque (arrowed) on maxillary (a) and mandibular dentures (b)

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2. Materials and Methods Used

The study was conducted as a cross sectional survey in a private dental college in the Chennai city, TamilNadu, India. List of 20 questionnaire of yes or no pattern was prepared about denture hygiene knowledge among 100 undergraduate students, age range from 20-24 were chosen. The responses from all students are collected within 30 days. The questionnaires were distributed manually. After collecting the questionnaires and data, statistical analysis was done.

3. Results

This study shows the awareness of undergraduate students about denture hygiene knowledge among Fully/Partially edentulous patients. This survey is conducted among 100 undergraduate students around the age of 22 to 24 years. The subjects were questioned if oral biofilms on complete denture are associated with conditions like denture stomatitis and other serious systemic diseases, 54% of the dental student's responded incorrectly. Similarly 70% of student's advice denture cleansers for denture cleaning. 47% of students sited that cleaning the tissue bearing area of denture with Tooth brushes will affect its retention in mouth. 58% of intern's agreed explaining denture hygiene to old patient is time consuming. If denture adhesive is used daily it should clean, 81% of students are aware of denture adhesive. Accumulation of plaque on denture cause bad breath and 58 % of students agreed. The attitude variables results that approximately half of the students (48%) agreed in explaining denture hygiene.

Questions:

- 1) Do Dentures accumulate Biofilm?
 - a) Yes-93
 - b) No-6
- 2) Is regular Denture cleansers is advisable to clean the Denture?
 - a) Yes-70
 - b) No-29
- 3) Does cleaning the Tissue Bearing area in the Denture affect the Retention in mouth?
 - a) Yes -47
 - b) No-52
- 4) Is oral Biofilm on Complete denture associated with Denture stomatitis and other systemic diseases?
 - a) Yes-45
 - b) No-54
- 5) Do u think recall program for denture wearing patient is important?
 - a) Yes-68
 - b) No-31
- 6) Do u think instructing denture hygiene among the old patient is time consuming?
 - a) Yes-58
 - b) No-41
- 7) Do u feel there is no use in providing instructions to the old patients wearing dentures as they decline to follow?
 - a) Yes-53
 - b) No-46
- 8) Denture adhesives need not be cleaned completely and be reapplied again Daily?
 - a) Yes-81
 - b) No-19
- 9) Denture should be cleaned at least once daily?
 - a) Yes-39
 - b) No-60
- 10) Is using an mouthwash will affect the denture quality?
 - a) Yes-56
 - b) No-43
- 11) Does placement of denture in hypochlorite cleansing solution for longer period damages the denture?
 - a) Yes-76
 - b) No-24
- 12) Patient education regarding impact of Denture hygiene on systemic health is important?
 - a) Yes-53
 - b) No-47
- 13) Do u think proper instruction should be given to the denture wearing patients?
 - a) Yes-48
 - b) No-52
- 14) Is there any Dietary restrictions for Denture wearing patient?
 - a) Yes-60
 - b) No-40
- 15) Do u use verbal kind of medium for giving denture hygiene instructions?
 - a) Yes-54
 - b) No-46
- 16) Can a tooth paste be used to clean the Denture?
 - a) Yes-63
 - b) No-37
- 17) Do u instruct the patient that using an denture more than 5 years will affect the quality of the Denture?
 - a) Yes-47
 - b) No-53
- 18) Do u think accumulation of plaque on dentures causes gingivitis or bad breathe ?
 - a) Yes-58
 - b) No-42
- 19) Is it correct to wear an denture during sleeping ?
 - a) Yes-62
 - b) No-38
- 20) Do u instruct the patient to store the denture in water ?
 - a) Yes-51
 - b) No-49

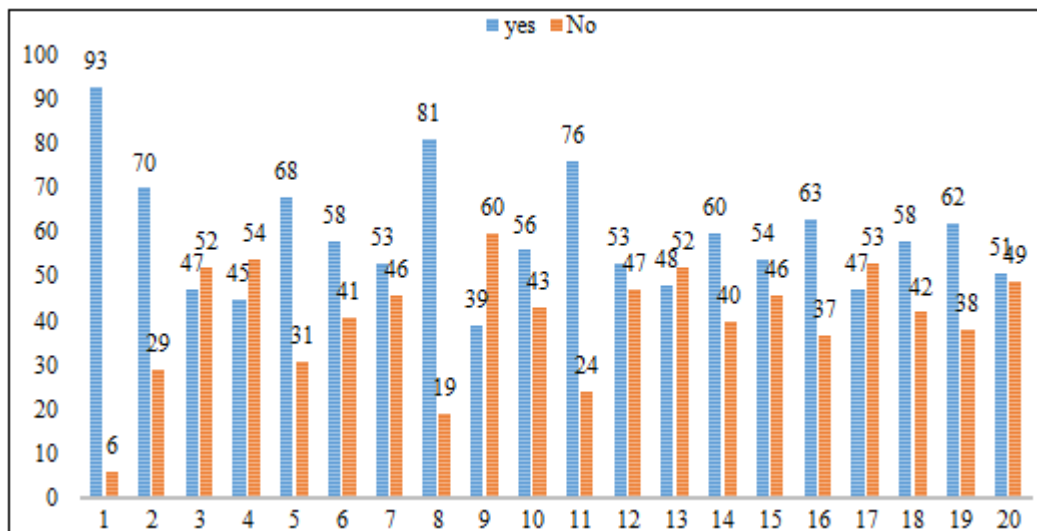


Figure 2: The bar chart shows percentage of interns against respective questions

4. Discussion

Appropriate denture care follow is very important among denture wearers to stop the negative impact of poorly kept denture. Our study shows that majority (63%) of the undergraduate students advice the mechanical technique of toothbrush for cleanup of patients dentures. Compare with report of study by Marchini et al.,^[8] among patient where majority of 98.7% used mechanical method to achieve denture hygiene. The explanation for the common use of mechanical technique might be attributed to the actual fact that several individuals used toothbrush and paste for denture hygiene^[13] and will simply adopt this for care of their dentures as they transit from dentate to edentulous state. Though combination of mechanical and chemical cleanup techniques has been reporting the best technique to attain denture cleanliness^{[14],[15]} mechanical technique was found to be simpler than chemical technique.^[16] On frequency of cleanup denture, 39% of the undergraduate students agreed that denture wearers clean their denture at least once daily. World Health Organization reported that 55.7% of denture wearers clean their denture over once daily. this could be even attributed to habit of cleanup teeth once daily by people in the environment. [13]

In this study, 62% undergraduate students agreed that denture wearers removed their denture at the night time before reaching to bed. according to Johnson^[17] finding among patients which 2% of denture wearers slept with their denture at the night time, however this can be opposite to the report by Barbosa et al.,^[9] and Peracini et al.,^[18] which 64% and 58% of denture wearers severally slept with their dentures. The inequality within the findings might be attributed to differentiation in level of importance connected to oral hygiene instruction by the dentists or the denture wearers. In this study 54% of the undergraduate students genuinely had given oral hygiene instruction, which closely matches with Peracini et al.,^[18] report, that 58% of his subjects claimed to have been given oral hygiene instructions.

Regular visit to dental practitioner is a vital part of consecutive denture treatment; only a few patients reported visiting dentist each six month, whereas majority of the respondent visited dentists when they required treatment. This is often the same as Machini et al.,^[8] finding that several denture wearers don't adjust to periodic dental visit. the reason for the poor clinic attendance for routine examination may be the comparatively high cost of dental services.^[8] carrying complete dentures at nighttime was related to the prevalence of denture-related stomatitis but, there was a important relationship between cleanup of the denture with the remaining natural teeth.^{[19],[20],[21]} Cleaning of the denture with remaining natural teeth in the oral cavity can deny the cleanup agent (toothbrush and soap) access to the fitting surface and boundary of the denture this may enhance plaque accumulation. additionally there was a big relationship between frequency of cleanup denture and denture hygiene. This supports the study by Takamaiya et al.,^[10] within which majority of their subjects clean their denture once daily and showed poor denture hygiene.



Figure 3: Denture Stomatitis

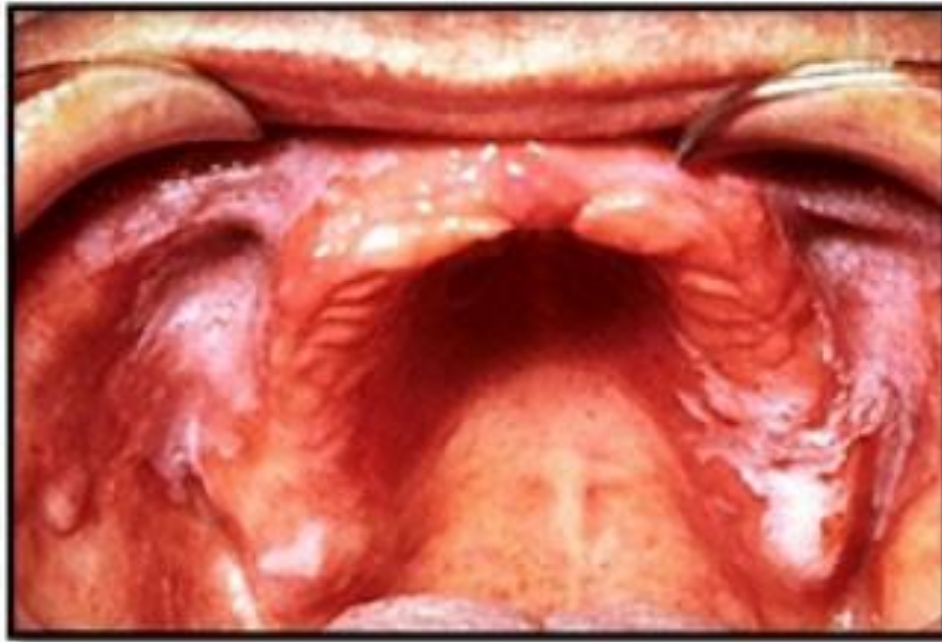


Figure 4: Chronic atrophic candidiasis is seen on maxillary oral mucosa associated with denture wearing

5. Conclusion

This study shows that cleaning the denture once in a day is inefficient to maintain the oral hygiene in day to day life for denture wearers which results in plaque accumulation. Under graduate students should emphasize removal of denture from mouth to clean and at this rate all the denture wearers must be instructed to clean the denture twice a day so as to take care of a correct oral hygiene. Dentists should keep updated with the recent denture cleansing ways and share with their patients.

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