

Original Research

Comprehensive assessment of complete denture hygiene and maintenance habits among institutionalized elderly patients - A questionnaire based original study

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ABSTRACT:

Aim: This questionnaire based study was performed to evaluate the complete denture hygiene and maintenance habits among elderly institutionalized patients of north Indian region. **Materials & Methods:** The present study was executed in the department of Prosthodontics. It included 100 patients who got complete dentures in the year 2019. Patients were screened from the normal patient flow of the department. A questionnaire was made which has 10 questions about cleansing methods, frequencies of cleaning, denture cleaning materials and other related parameters. All were given a set of 10 questions and asked to respond. Informed consents were obtained from the participants. **Results:** Out of 100 patients, males were 65 and females were 35. Roughly 8 patients were cleaning their complete denture on daily basis. Half of the patients reported that they were unaware of denture cleaning methods. Also, the overall complete denture hygiene and maintenance were significantly low in older age group (>70 Years). 24 patients were cleaning their denture using brush with tooth paste. **Conclusion:** The status of complete denture hygiene and maintenance was below fair level. Few of the patients were cleaning their complete dentures very rarely.

Key words: Complete Denture Hygiene, Oral health, Oral hygiene practices

Received: June 22, 2020

Revised: July 28, 2020

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This article may be cited as: Kumar P. Comprehensive assessment of complete denture hygiene and maintenance habits among institutionalized elderly patients - A questionnaire based original study. J Adv Med Dent Scie Res 2020;8(11):16-18.

INTRODUCTION

Complete denture after care is most important for optimal health of oral tissues and mucosa particularly in older populations. Unhygienic and contaminated complete dentures start acting as a reservoir for bacterial and other microorganisms. They also start attracting and favoring formation of bacterial plaque. Eventually denture wearers start complaining about bad breath and other dilemmas.^{1,2,3} These entire phenomenon collectively affect the overall masticatory efficiency and patient comfort. But, several researchers have shown that the majority of complete denture wearers are not very much concerned and attentive about the complete denture cleanliness.⁴ Literature has well evidenced that optimal maintenance of complete denture hygiene ultimately leads to improved oral

health status.⁵ Several methods have been employed for these purposes including mechanical, chemical and chemico-mechanical methods. However, the most frequently and widely used denture care method is using a brush in the presence of hot or cold water. They are commercially available specialized brushes exclusively designed for the purpose of denture cleaning. Some of the researchers had shown the effective usage of mouthwashes for chemical cleaning of complete dentures.⁶ Keeping the denture overnight in some antifungal antibacterial solutions has also been shown to disinfect denture surfaces effectively. They are mostly advised in the patients those are susceptible to develop oral thrush and of denture stomatitis. Therefore, this questionnaire based study aimed to assess the complete denture hygiene and maintenance

habits among elderly institutionalized patients. Here authors have authentically attempted to investigate the existing outcomes by processing their responses generated through pre-formed questionnaire.

MATERIALS & METHODS

The present study was performed in the department of Prosthodontics of the institute. It incorporated 100 patients who received complete dentures. Complete dentures were fabricated in the institute by the students and faculty members in the year 2019. A self prepared, close ended questionnaire was made which comprised of 10 questions regarding complete denture hygiene, knowledge and other related parameters. We have decided to conduct this study on questionnaire model since they are exceptionally useful to obtain detailed information about personal and group perceptions and opinions. They are also competent of saving time and money while analyzing the subjects at individual levels. In addition, they also give a broader range of data with better clarification and understanding. The worthiness of this study was revealed to all patients. The privacy of the respondents and their freedom of expression were completely ensured. All patients were given a set of 10 questions and asked to respond truthfully. The questionnaire exercises were completed in patient's routine recall visits. To ensure entirely comfortable responses, the study was performed in an anxiety free atmosphere. It was done to ensure fair outcome those may possibly be seen if attempted arbitrarily. Results thus obtained was tabulated and subjected to basic statistical analysis. P value less than 0.05 was considered significant ($p < 0.05$).

STATISTICAL ANALYSIS:

All the studied parameters and records were assembled and sent for statistical analysis using statistical software Statistical Package for the Social Sciences version 21 (IBM Inc., Armonk, New York, USA). The resultant data was subjected to relevant statistical tests to obtain p values, mean, standard deviation, chi-square test, standard error and 95% CI.

RESULTS:

Out of 100 patients, males were 65 and females were 35. Total 30 patients were belonging to age group >70 years. Only 8 patients were falling in the age range of 40-50 years thus we can assume that most of the denture wearers were belonging to older age groups. P values were significant for first age group. 24 patients were cleaning their denture using brush with tooth paste. 11 patients were not using any means of denture cleansing. 13 patients reported that they soak complete dentures in cleansing tablet solution. 6 patients reported that they brushing and

soak complete dentures in hypo solution. P value was reported to be significant (0.010). Other observational findings are also noted. Roughly one fourth of the studied patients were haphazardly cleaning their complete denture. Total 16 participants reported that they are cleaning their completed dentures very rarely. P value was reported to be significant. Other frequency related variables have also been monitored.

DISCUSSION

Micro-porosities those are present on the roughened denture surface can act as a favorable region of bacterial growth and development. These dilemmas can be managed by maintaining regular hygiene of the complete denture with suitable means. There are numerous tablets, solutions, pastes and powders available commercially to cleanout completed dentures.⁷⁻¹⁰ All have different indications and efficacies. In Indian scenario, most of the patients are using denture cleansing tablets or they brush their dentures with pasts. Literature have also evidenced (Goffin et al) that brushing with past is the commonest and popular way of denture cleansing. Our study results were also in accordance with these findings.¹¹ We have also noticed that 24 patients were cleaning their denture using brush with tooth paste. 11 patients were not using any means of denture cleansing. Our study results were similar to the finding of Felton and co workers.¹² Furthermore we also find that 13 patients soak their complete dentures in cleansing tablet solution while 6 patients reported that they brushing and soak complete dentures in hypo solution. These findings were quite comparable with the results of Khasawneh et al and Sadig et al.¹³⁻¹⁴ As a proven fact, all denture health care manufactured goods must be user friendly, easy to apply, efficient in anti microbial actions and economical. Saha et al estimated the denture hygiene habits in complete denture wearers in 2014. Similar to our study, they also used self-made structured questionnaire to distinguish the outlook of the patients from the regarding denture hygiene. Their study sample consisted of totally 500 subjects, which included 284 males and 216 females. Their results were quite similar to our findings as they also found bad hygiene of complete dentures in studied population. They further stated that it was mainly due to irregular cleansing habits and less usage of cleansing solutions.¹⁵ Some of the pioneer workers (Dikbas et al) have also quoted that aged patients, predominantly those who are in a compromised health state, are not able to maintain good denture hygiene due to some physical or other issues. Therefore, it is very essential for clinicians to educate their patients about every day denture cleansing procedure.¹⁶

CONCLUSION

Author concluded that the overall status of complete denture hygiene and maintenance was below fair level. Majority of the studied patients were cleaning their denture using brush with tooth paste. In the older age group, most of the complete dentures were not hygienically maintained solely due to lack of knowledge and motivation. Our study results could be treated as suggestive for predicting clinical outcomes for such critical situations. Nevertheless, we expect some other large scale studies to be conducted that could further set certain standard norms.

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