

## Patient's Knowledge and Attitude towards post-extraction instructions following permanent teeth extraction

### Abstract:

**Background:** Post extraction complications may arise if the extraction done is traumatic or the tooth was placed at a difficult position; this could lead to post-extraction complications and knowledge about the prevention of the same is the need of the hour. Hence, the present study was conducted to explore the knowledge of the participants about the prevention of post-extraction complications.

**Material and Methods:** This is a questionnaire-based cross-sectional descriptive study.

A total of 135 patients (75 males and 61 females) were included in the study by the convenient method of sampling that visited the dental clinics of the College of Dentistry, Validated questionnaire was asked about post-extraction preventive knowledge. The statistical analysis was performed by the Statistical Package for Social Science version 21 (SPSS Inc Chicago, IL, USA). The significant value was obtained by using the Chi-Square test and  $p < 0.05$  was set to be significant.

**Results:** Females more than 50 years of age group had better post-extraction preventive knowledge and there was significant relation ( $p < 0.05$ ). Socioeconomic level and gender distribution had significant relation with the level of post-extraction preventive knowledge ( $p < 0.05$ ). The patients who had better knowledge followed their instructions precisely.

**Conclusion:** It was concluded that female, patients above the middle age group and more qualified patients had more post-extraction preventive knowledge and they also followed the instructions very strictly. The importance of the study came out that dentists or dental assistants should explain and convince them to follow proper post-operative instructions to avoid complications.

**Keywords:** Extraction, postoperative complications, surgical extraction.

## Introduction

Teeth are among the most important part of our body, which has a masticatory, aesthetic and phonetic function. Extensive caries, trauma, teeth mobility tooth due to severe periodontal disease, large periapical abscess, overcrowding of teeth in the dental arch, impacted third molars and orthodontic purposes are the main reasons for teeth extraction <sup>[1]</sup>. Now a day's tooth extraction can be reduced as the entry of more advanced treatment procedures but in some cases extractions are unavoidable. Still, extraction is the most common procedure done in dentistry, especially in developing countries. Knowledge about post-extraction complications and their management can prevent the occurrence of untoward sequel following extraction. Previous studies have shown that preoperative patient education can help in decreasing postoperative anxiety, pain, and complications <sup>[2]</sup>.

Compliance is the common word to describe organ donor patients' cooperation with clinical drug utilization, which is quintessential for therapy to achieve the required results.<sup>1</sup> Sufficient patient education provided after any surgical intervention has somewhat proven to develop patients' stability and reduce postoperative complications <sup>[2-3]</sup>. Such education includes anticipation of postoperative events, correction of possible misunderstanding of patients receiving medical instructions, and the successful achievement of the instructions given by physicians in order to abate expected complications and improve patients' health <sup>[4]</sup>. Providing the patient with greater information generally leads to increased compliance with treatment recommendations <sup>[5]</sup>. The more the information delivered by the physician, the greater the reduction in calling patients for recall visits <sup>[5]</sup>.

Having heard personality disorders can generate a non-compliance attitude <sup>[6]</sup>, sex and education can be correlated in the event of postoperative compliance <sup>[7]</sup>.

Tobacco smoking is an implemented cause to decrease dental socket healing post-operatively <sup>[8]</sup>. In a certain study, tobacco was believed to be the source of noncompliance, with almost

half of the smokers that didn't cease smoking during the postoperative surgery period without considering any of the biographic data or whether the instructions were delivered verbally or in a written matter <sup>[9]</sup>.

Merging both verbal and written instructions turned out to be mostly preferred by patients, especially those with lower educational **backgrounds** <sup>[2,8,9]</sup>. Generally **announced**, post-operative patient satisfaction positively impacts compliance and, therefore upgrades **the** quality of treatment <sup>[10]</sup>.

### **INSERT AIM OF THE STUDY**

#### **Materials and Methods:**

A cross-**sectional** study was conducted in which a survey questionnaire was distributed to dental colleges as well as public and private hospitals. The survey will include questions aimed towards patients who had undergone extraction. The participants will be asked **questions** related to post-operative instructions. The questions will involve general knowledge of post-operative instructions. The study sample will include nearly 300 participants including **males and females** of any nationality. **The** sample size will be determined with **a** power of 0.95 and an estimated standard deviation of 1. The questionnaire was distributed among 300 individuals.

Before conducting the study, ethical clearance was obtained from the institutional review board. Written consent to participate in the study was obtained from the patients after explaining the nature and objectives of the study.

All data will be entered into SPSS for statistical analysis. Descriptive Statistics (tables, frequency, percentage, graph, mean, median, standard deviation, and Interquartile Range)

will be presented. Also, for statistical comparison, Chi-Square will be used and **p-value** < 0.05 was set to be significant.

The study should take approximately 3 months for data collection and another month for data analysis and paper writing. **The** questionnaire was self-**developed** by the research members as it follows the proper post-operative instructions following any dental extraction.

**Results:**

Table 1: Frequency distribution of Age groups and association with knowledge of **postoperative** extraction instructions.

<b>AGE GROUP</b>	<b>N</b>	<b>%</b>	<b>P-value</b>
18-25	41	30.4%	0.021*
25-35	23	17%	
35-50	21	15.6%	
50	50	37%	

\*significant p<0.05

**A** total of 135 questionnaires were filled in by people from dental colleges as well as public and private hospitals. The great majority of respondents were above 50 years (37%) and followed by 18- 25 years old (30.4%). (Table 1)

Table 2: Frequency distribution of Gender and association with knowledge of **postoperative** extraction instructions.

<b>Gender</b>	<b>N</b>	<b>%</b>	<b>P-value</b>
Female	61	45.2%	0.031*
Male	74	54.8%	

\*significant p<0.05

A total of males 74 (54.8%) and females (45.2%) have participated in the study. (Table 2)

Table 3: Frequency distribution of Standard of living and its association with knowledge of **postoperative** extraction instructions.

STANDARD OF LIVING	N	%	P-value
SIMPLE	48	35.6%	0.017*
MEDIUM	45	33.3%	
HIGH	42	33.3%	

\*significant  $p < 0.05$

The standard of living among the participants was simple (35.6%), medium (33.3%), and high (31.1%). (Table 3)

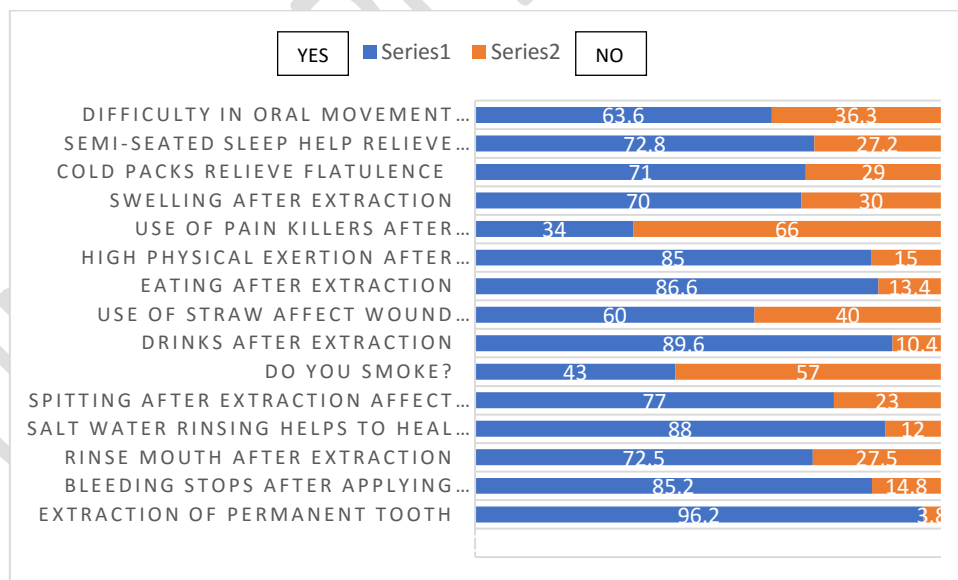
Table 4: Frequency distribution of Questionnaire

S. No.	Questions	Responses	N (%)
1	Teeth extracted previously	<ul style="list-style-type: none"> <li>• One</li> <li>• More than one and less than five</li> <li>• More than five</li> </ul>	70 (51.9%) 35 (25.1%) 30 (23%)
2	The expected period of bleeding after extraction	<ul style="list-style-type: none"> <li>• 5 to 45 minutes</li> <li>• 45 minutes to two hours</li> <li>• Two to five hours</li> <li>• five hours to a whole day</li> </ul>	80 (59.26%) 20 (14.81%) 11 (8.15%) 24 (17.78%)
3	How long does it take to replace the cotton after the extraction	<ul style="list-style-type: none"> <li>• 30-60 minutes</li> <li>• One to two hours</li> <li>• Two to five hours</li> </ul>	41 (48%) 20 (23.5%) 24 (28.5%)
4	When can you rinse	<ul style="list-style-type: none"> <li>• after two hours</li> <li>• after four hours</li> <li>• Six hours later</li> <li>• Eight hours later</li> <li>• After a whole day</li> </ul>	4 (4.1%) 6 (6.2%) 18 (18.3%) 12 (12.5%) 58 (60.5%)
5	What is the appropriate solution for rinsing the mouth	<ul style="list-style-type: none"> <li>• Mouthwash (contains chlorhexidine)</li> <li>• Mouthwash (does not contain chlorhexidine)</li> <li>• Only water</li> </ul>	7 (43.8%) 5 (31.2%) 4 (25%)
6	When can you spit?	<ul style="list-style-type: none"> <li>• Immediately after extraction</li> <li>• On the day of the extraction</li> <li>• next day</li> </ul>	5 (17.5%) 8 (27.5%) 16 (55%)
7	When can smoke after extraction	<ul style="list-style-type: none"> <li>• Eight hours later</li> <li>• Twelve hours later</li> <li>• After a whole day</li> <li>• After two days</li> </ul>	6 (12.2%) 3 (6.1%) 35 (71.5%) 5 (10.2%)

8	What is the temperature of the drink?	<ul style="list-style-type: none"> <li>• Cool</li> <li>• Warm</li> <li>• Hot</li> </ul>	110 (92.4%) 4 (3.3%) 5 (4.3%)
9	When can you use the straw	<ul style="list-style-type: none"> <li>• Eight hours later</li> <li>• Twelve hours later</li> <li>• After a whole day</li> <li>• After two days</li> </ul>	5 (10%) 12 (23.5%) 23 (45%) 11 (21.5%)
10	If yes, what is the food temperature	<ul style="list-style-type: none"> <li>• Cool</li> <li>• Warm</li> <li>• Hot</li> </ul>	100 (87.7%) 7 (6.15%) 7 (6.15%)
11	What is the nature of food	<ul style="list-style-type: none"> <li>• Hard</li> <li>• Soft</li> <li>• Liquid</li> </ul>	17 (13.1%) 89 (65.9%) 29 (21%)
12	When can you brush your teeth after extraction?	<ul style="list-style-type: none"> <li>• Twelve hours later</li> <li>• after a day</li> <li>• after two days</li> <li>• after a week</li> </ul>	20 (14.7%) 48 (35.5%) 34 (25%) 33 (24.8%)
13	Answer is yes, when can you make a physical effort?	<ul style="list-style-type: none"> <li>• Twelve hours later</li> <li>• after a day</li> <li>• after two days</li> <li>• after a week</li> </ul>	10 (9%) 65 (59%) 23 (21%) 12 (11%)
14	Is antibiotic use obligatory	<ul style="list-style-type: none"> <li>• obligatory in all cases</li> <li>• obligatory in some cases</li> <li>• Absolutely not obligatory</li> </ul>	34 (25%) 78 (57.5%) 23 (17.5%)
15	How long will the antibiotics be used?	<ul style="list-style-type: none"> <li>• 3 days</li> <li>• 5 days 39 40%</li> <li>• 7 days 47 48.5%</li> </ul>	11 (11.5%) 39 (40%) 47 (48.5%)
16	The normal duration of flatulence	<ul style="list-style-type: none"> <li>• One to two days</li> <li>• Three days to five days</li> <li>• whole week</li> </ul>	19 (47.5%) 11 (27.5%) 10 (25%)
17	Use of cold pack	<ul style="list-style-type: none"> <li>• Twelve hours</li> <li>• Two hours</li> <li>• 6 hours</li> <li>• Full Day</li> </ul>	7 (30%) 11 (42.3%) 5 (19.7%) 3 (8%)
18	When should the suture be removed	<ul style="list-style-type: none"> <li>• after a week</li> <li>• After two weeks</li> <li>• Three weeks later</li> <li>• After a whole month</li> </ul>	10 (20.5%) 21 (42.8%) 5 (10.2%) 13 (26.5%)

Almost 96.2 % of participants have extracted permanent teeth, of which only 23% have extracted more than 5 teeth and 25.1% have extracted more than one tooth. The expected period of bleeding after extraction was observed by 59.2% of responses is 5 to 45 minutes followed by 5 hours to whole day by 17% of responses. 85.2 % agreed that application of cotton stops bleeding, in which 48% responded as replacing cotton after the extraction n in 30

-60 minutes and 72.5 % believe to rinse the mouth after extraction out of which 60.5% agreed to use the rinse after a whole day of extraction whereas 27.5% deny its use. The use of salt and water rinse helps in healing the wound was agreed by a maximum of (119) 88% of responses and whereas 7 responded to use of mouthwash to be more favourable in healing. Almost 77% responded that spitting can affect bleeding whereas 27.5% agreed to spit on the day of extraction and 43% agreed to smoke, 71.5% can smoke after a whole day of extraction, 89.6% agreed to drink after extraction in which a cool temperature is preferred by 92.4%. The normal duration of flatulence of one to two days was agreed by 47.5%, in which 71% agreed that cold pack reduces the surgical dislocation and 42.3% agreed to use it for 2 hours. Semi-seated sleep help to relieve bleeding was responded by 72.8% of which 50% agreed with the position of almost lying down. Out of 135 responses, only 34% believe necessary to advise painkillers after extraction for three days (43%) and 57% responses agreed obligatory use of antibiotic in some cases. (Table 4)



**Graph 1:** Responses based on questionnaire of post-extraction instructions

There were 63.6% responded difficulty in oral movement and 72.8% but semi-seated sleep help relieve pain and 71% agreed cold pack relieves flatulence and 70% experienced swelling

after surgical extraction, 34% agreed to take pain killers and 60% understand the effect of wound healing on the use of straws. 85.2% responded to applying cotton for stopping bleeding and 43% agreed to smoke after extraction.

## Discussion

Knowledge about post-extraction complications and their management can prevent the occurrence of untoward sequelae following extraction. There are many studies that have depicted that preoperative patient education can help in decreasing postoperative anxiety, pain, and complications <sup>[2]</sup>.

Keogh T found that the higher socioeconomic status group had clearer knowledge, more positive attitudes, and more appropriate behaviour related to dental health than those of the lower socioeconomic status group <sup>[11]</sup>. The present study has shown similar findings, in which patients with a high standard of living had a more appropriate knowledge in relation to the oral health care

Blinder <sup>[3]</sup> did a study for the evaluation of postoperative instruction compliance among patients who had undergone oral surgery. Academic level in relation to postoperative instruction regarding mouthwash compliance implied a difference while other instructions showed no difference between educated and non-educated patients. This suggests that education is unrelated to the level of understanding, which agrees with Alexander and Taylor, EM et al <sup>[9]</sup> The present study also illustrates no association of education related to the level of understanding

Samra Faheem had done study on patient compliance of instruction by performing clinical examination of socket status after non-surgical permanent tooth extraction. Socket cleanliness, socket blood clot status and symptoms of infection like: Swelling redness and fever were to evaluate whether the patient's adherence to instructions was satisfactory or not. Statically there was no significant difference between age, gender with socket status with

predilection of **the** female of poor socket hygiene status <sup>[12]</sup>. The present study illustrates no **statistically** significant difference **in** patient compliance of instructions with gender, but a **statistically** significant difference can be observed **regarding** age groups and socioeconomic groups. Compared with 'non-poor', individuals with low waivers have been appeared to hold different states of mind about medicinal services, indicating **a** more negative view of medical consideration and lower expectations to seek healthcare <sup>[5]</sup>.

There is a general suspicion that individuals in later life have poorer data review**ws** than more youthful persons <sup>[13]</sup>. Others have proposed that it isn't the association of the collected material that is significant in age-related memory function. However, it is the degree to which the data is reliable and related to recently acquired information <sup>[14]</sup>.

There is surely proof for this, it has been discovered that among older readers, therapeutic data that **coincided with** patients' beliefs was preferred recalled over data negating them. Aging causes trouble in memorizing and thusly recalling post-operative instructions, particularly that which negates previous beliefs. Memory likewise blurs more quickly <sup>[15]</sup>. The form or mode of information is also relevant. In **most** cases, providing spoken **advice** isn't a successful way of retaining post-operative instructions <sup>[16]</sup>. Hence, we can observe a significant association with the age groups and **post-operative** instructions, in which the older age groups have difficulty in answering the questions accurately.

Written instructions **are** better recalled and **prompt** better treatment adherence <sup>[5]</sup>. Patients with poor education profited more from the animation technique than did **educate** patients <sup>[11]</sup>. Others have used pictographs, **pictures**, writing in cancer and HIV/AIDS patients. Basic pictographs, with a reasonable and direct connection between the image and its significance, are best <sup>[14]</sup>.

Prescription instructions sometimes tend to be hard to be fully understood; patients often

unintentionally forget **to** take the right amount prescribed by physicians.<sup>17</sup> Alexander reviewed default post-operative instructions usually used in dentistry. He discovered that such used words are full of advanced terminologies and difficult **jargons** <sup>[8]</sup>. It has been assumed that **simplified** written materials can make instructions understandable to the greatest number of patients.<sup>18</sup>

By conveying postoperative guidelines, the risk of law claims after surgeries is indeed reduced <sup>[2,3,9-15]</sup>. Summing the required information to 3 or 4 points during each discussion and using simple terms especially when explaining **the** diagnosis and giving instructions can assist in patient understanding <sup>[9]</sup>. A single study suggested that patients who have a good knowledge of their disease or procedure have a better outcome than those who don't <sup>[19]</sup>.

According to the study conducted by Chhabra KG et al<sup>[20]</sup>, the knowledge of post-extraction instructions on oral health-related quality of life among adults was pursued less in a low socioeconomic level due to lack of awareness toward oral health and lack of dental visit.

According to the study Goyal et al <sup>[21]</sup> on the importance of behavioural sciences **within** less privileged areas, the services should be provided on the basis of felt needs of the rural population so that appropriate utilization of oral health services can be increased, thereby improving the oral health status of the underprivileged population. By such exploration, **post-operative dental pain can also be reduced to a certain extent.**

## **CONCLUSION**

It was concluded that female and above middle age group and more qualified patients had more post-extraction preventive knowledge and they also followed the instructions very strictly. This study shows the importance of post-extraction knowledge for the patient to prevent the post-extraction complications.

**COMPETING INTERESTS DISCLAIMER:**

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

**VOLUME NUMBERS ARE MISSING IN MOST OF THE REFERENCES,**

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