

Dental Patients' Misconceptions, myths and Fears About the Scaling Procedures: An Age-Related Analysis from a Public Sector Hospital

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Author's Contribution

¹Substantial contributions to the conception or design of the work; or the acquisition, ^{2-5,6}Drafting the work or revising it critically for important intellectual content
⁶Critical review, ^{3,8}Active participation in active methodology

Funding Source: None

Conflict of Interest: None

Received: Oct 10, 2024

Accepted: Jan 12, 2025

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ABSTRACT

Objective: To evaluate and highlight the misconceptions, myths and fear associated with scaling procedure among Patients with respect to age groups visiting a Public Sector Hospital.

Methodology: This Questionnaire based cross sectional survey was conducted in school of dentistry, Islamabad September 2023 to August 2024. Three hundred and fifty participants filled the questionnaire where reluctance and apprehension of dental patients toward scaling procedure in light of myths and fears was answered. Patients having permanent teeth were included in the study, whereas, those having deciduous or mixed dentition were excluded. Quantitative data in terms of age, gender, fears and myths was collected, analyzed and tabulated in frequencies and percentages.

Results: Total 284 (81.1%) males and 66 (18.9%) females participated in this study where 44 (26.7%) participants belonged to 14-24 years of age, 51(30.9%) pertaining 25-34 years and 70 (42.4%) belonged to 35 or above years of age. Participants belonging to 35 – above years did not consider anxiety, painful side effects, tooth surface roughness, cross infection fear, high cost, increased tooth mobility, gap and sensitivity as barriers of scaling. Descriptive statistics was done.

Conclusions: Current study concluded that middle aged and elderly participants were regular dental visitors having less misconceptions and myths regarding scaling and its beneficial effects.

Key words: Dentist, Misconceptions, Myths, Scaling, Tooth sensitivity.

Cite this article as: Mansoor A, Mansoor E, Mansoor E, Mansoor E, Hassan U, Jamil M, Hussain K, Abbas MMJ. Dental Patients' Misconceptions, myths and Fears About the Scaling Procedures: An Age-Related Analysis from a Public Sector Hospital. Ann Pak Inst Med Sci. 2024; 21(1):189-194. doi. 10.48036/apims.v20i1.1479.

Introduction

One of most important assets of the human life is health. The general fitness of any individual is associated with the oral health and wellbeing.¹ The maintenance of dental hygiene is an essential segment in the life of any healthy human being and is easily achievable by visiting the dentists on regular basis for routine checkups.² The general health is deteriorated due to the individual's poor

hygiene quality that might lead to various oral and systemic diseases.³ Therefore, oral health knowledge is the most significant pre-requisite attributing to the improved quality of life altogether with the overall healthy behavior⁴, as quality of life of patients should be improved.⁵

Oral hygiene can be improved with the most common procedure referred as Scaling of the human dentition

where deposits, plaque and calculus attached to different tooth surfaces are removed. Modern well-designed ultrasonic and manual scalers are utilized for this purpose.⁶ Scaling is recommended by dentists, at the time when soft and hard deposits cover the entire tooth structure slowly and gradually with the passage of time.⁷ These soft and hard deposits in the form of plaque and calculus are responsible for originating the oral diseases such as gingivitis and periodontitis that might be responsible for pain, bleeding gums, halitosis and tooth mobility. Only scaling can prevent the gums from undergoing these serious problems.⁸ Additionally, scaling also enhances the aesthetics of the human dentition by making them clean and white further, preventing the decaying of teeth and other systemic diseases. Thus, scaling should be carried out twice in year but might vary in smokers and other orally compromised patients.⁹

The word “Myth” is derived from a Greek word “Mythos” having a meaning “Thought” that meant story of un-known speech or origin. Moreover, generally it is conventional story that concerned some sort of being, occasion either possessing a well-defined hero, basis, natural facts and explanations or without these aforementioned properties.⁸ The word “Taboo” has been originated from a “Tongan” word “Tabu” which meant “Set apart” or “Forbidden”. Sometimes these “Taboos” are not common all around the globe but recognized in majority of civilization’s.⁹ Likewise, there are multiple fears and myths related to the Oral hygiene procedures in various cultures and societies.^{9,10} Among them, scaling is taken as the most evident factor responsible for fear in population and myths related to it.¹¹ Previously, it was thought that teeth got damaged after the commencement of the scaling such as post scaling sensitivity, tooth mobility and breakage.^{8,12} These factors might have been enough to keep general population away from undergoing the scaling when required that needs to be addressed. Along with healthcare employees, patients should also know about cross-contamination control, and should not misapprehend.¹³

Lack of education along with traditional beliefs and socio-cultural factors lead to development of mendacious perceptions and myths. Dental community has done a lot of efforts to promulgate evidence-based knowledge & exterminate myths at grass root level.¹⁰ Due to the lack of knowledge and awareness, these myths and fears regarding dental procedures are more prevailed in developing regions especially Pakistan. To the best of our knowledge, constrained research has been produced

addressing the myths and fears of scaling among the dental patients with respect to age groups.

Objective of this study was to evaluate and highlight the misconceptions, myths and fear associated with scaling procedure among Patients visiting a Public Sector Hospital, so that we should focus on upgrading the knowledge of dental patients to overcome their fears and myths regarding scaling procedure with respect to age groups in order to increase their attitude towards oral and general health status.

Methodology

The present study was a cross sectional survey which was based on a Questionnaire and was performed in School of Dentistry (a public sector hospital) Islamabad from September 2023 to August 2024. This study was conducted after the ethical approved attained from the Ethical Review Board Letter # No. SOD/ERB/2023/413. The Questionnaire was shared among 363 dental patients who visited the hospital but only 350 patients answered the Questionnaire.

Patients having permanent dentition were included in the study. Patients having deciduous teeth or mixed dentition were excluded from the study.

The reluctance and apprehension of the dental patients toward scaling procedure in the light of myths and fears were answered after filling the Questionnaire. The average OPD patients is 59 per day, thus the “Open-Epi Online Calculator” calculated the sample size to be 350 having 95.0% confidence interval and significance level of 5.0%. The simple random sampling was done after the informed consent taken from the volunteer participants. Then they submitted their responses for each question asked in the Questionnaire. Descriptive statistics was done. The quantitative data in terms of age, gender, fears and myths regarding this study was collected from the participants and then analyzed and tabulated in frequencies and percentage.

Results

The study included 350 participants, with a majority being male (81.1%) and the remaining female (18.9%). The age distribution was as follows: 26% were aged 14–24 years, 30.9% were 25–34 years, and 43.1% were 35 years or older. Educational backgrounds varied, with 13.4% uneducated, 33.4% having completed secondary school, 29.1% college-educated, and 24% university-educated (Table I).

Regarding scaling-related myths and fears, participants aged 35 and above were more likely to be regular dental

attendees (42.4%) and were less likely to associate scaling with negative outcomes such as anxiety, painful side effects, tooth mobility, gaps, sensitivity, surface roughness, cross-infection, or high costs. In contrast, younger participants (14–24 years) exhibited higher misconceptions, with only 26.7% being regular dental attendees and more likely to believe in these myths (Table II).

Table I: Socio-Demographic Distribution of Patients in Different Categories.

Factor	Category	%
Gender	Male	284 (81.1%)
	Female	66 (18.9%)
Age	14-24 years	91 (26%)
	25-34 years	108 (30.9%)
	35 - above	151 (43.1%)
Education	Uneducated	47 (13.4%)
	School	117 (33.4%)
	College	102 (29.1%)
	University	84 (24%)

Table II: Reasons of the patients belonging to different age groups regarding scaling myths and fears.

Question Asked	14-24 years		25-34 years		35 - above		Total
	Yes	No	Yes	No	Yes	No	
Are you a regular dental attendee?	44 (26.7%)	47 (25.4%)	51 (30.9%)	57 (30.8%)	70 (42.4%)	81 (43.8%)	350
Are you concerned about contracting infections when visiting a dentist	55 (24.6%)	36 (28.6%)	74 (33.0%)	34 (27.0%)	95 (42.4%)	56 (44.4%)	350
Are you aware of scaling procedure?	48 (26.5%)	43 (25.4%)	64 (35.4%)	44 (26.0%)	69 (38.1%)	82 (48.5%)	350
Do you think that scaling is beneficial for teeth and gums?	24 (16.3%)	67 (33.0%)	40 (27.2%)	68 (33.5%)	83 (56.5%)	68 (33.5%)	350
Anxiety	25 (29.8%)	66 (24.8%)	20 (23.8%)	88 (33.1%)	39 (46.4%)	112 (42.1%)	350
Painful side effects	44 (36.7%)	47 (20.4%)	28 (23.3%)	80 (34.8%)	48 (40.0%)	103 (44.8%)	350
Increase mobility of teeth	5 (16.1%)	86 (27.0%)	16 (51.6%)	92 (28.8%)	10 (32.3%)	141 (44.2%)	350
Increase gap b/w teeth	13 (14.6%)	78 (29.9%)	21 (23.6%)	87 (33.3%)	55 (61.8%)	96 (36.8%)	350
Increase sensitivity	15 (19.0%)	76 (28.0%)	26 (32.9%)	82 (30.3%)	38 (48.1%)	113 (41.7%)	350
Teeth surfaces become rough	26 (31.0%)	65 (24.4%)	23 (27.4%)	85 (32.0%)	35 (41.7%)	116 (43.6%)	350
Fear of cross-infection	32 (33.7%)	59 (23.1%)	34 (35.8%)	74 (29.0%)	29 (30.5%)	122 (47.8%)	350

Middle-aged and elderly participants demonstrated better awareness of scaling benefits, with 56.5% of those aged 35 and above acknowledging its advantages for teeth and gums, compared to 16.3% of the youngest group. These findings highlight age and education as key factors influencing perceptions of scaling.

Discussion

WHO focus onto shrink burden of ailments & improve oral health-system by encouraging oral-health research in developing nations.¹⁴ Proper safety measures ought to be taken while dealing with patients.¹⁵ Dental fear is the 4th most prevalent type of phobia or fear.¹⁶ In dentistry, there are continuously fear & chances of cross-infection.^{17,18}

The current study depicted that taboos and misapprehensions adversely affected the dental health of general population due to lack of knowledge especially among the younger individuals in comparison to the middle and elderly aged people. Practical approach, maturity and realistic behavior in any individual comes with the proper education and awareness. This present study showed that individuals who believed more in fears and myths belonged to matric - below educational status because of their illiteracy status.

The participants belonging to 35 – above years in this study were regular dental visitors with enhanced awareness towards scaling procedure and its beneficial effects on gums and teeth in comparison to the participants ranging between 14-24 years and 25-34 years of age. Previously conducted study believed that myths

and fears related to the scaling procedures were more common in females and elderly people belonging to forty years of age where main cause was lack of awareness.^{19,20} The findings of our study did not match the literature because the elderly population in Pakistan might have become more mature and realistic because of their good educational status, sufficient awareness of health wellbeing, scientific knowledge and practical experiences in life.

Anxiety in the current study is not an evident causative agent by the participants 35 - above years (42.1%). This was not in collaboration with reported literature where it was found to be higher comparatively.²¹

In this study, 40% of the participants who did not consider painful side effects as a reason to avoid scaling belonged to 35-above year age group. A study conducted by a researcher confirmed that scaling is a painful procedure which is not in accordance with our study. This difference in the result of our study could have been occurred because absolute reasons regarding myths, fears and apprehensions related to scaling in different age groups have not been carried out in any other study in the past.²² Result of this study is comparable to another study where 33% subjects thought that dental treatment is always painful.¹⁰ Occurrence of dentinal hypersensitivity is quite alarming & also requires scaling.²³ The Demographic factors & socio-economic status has been playing a prominent role in providing great quality of health in nations like Pakistan.²⁴⁻²⁶

Only 10 participants of 35-above years believed that increased tooth mobility is a major issue for not undergoing the scaling procedure, which did not match the study performed previously where 33.0% participants thought that risk of increased tooth mobility prohibited them from undergoing the scaling procedure.¹² Another study also confirmed that fear of tooth mobility is the sole reason for not carrying out the necessary dental procedures as well.²⁷ Other research conducted in the past reported that 63.5% participants believed that scaling weakens the teeth.¹⁰ The results of current study are better because of the better understanding and knowledge among the 35-above years aged participants. Still, workshops and awareness seminars are needed to upgrade the knowledge and awareness of the individuals pertaining 14-34 years of age more appropriately in order to eliminate their scaling fears and myths.

The 35-above years aged participants who believed that increased tooth gap is not the causative agent for

prohibiting the scaling procedure was more than the reported study in the past.²¹ This high percentage attained in this study might have been possible because of the fact that social-media sites and internet access could have played a pivotal role in awareness spreading campaign in the community attributing general and oral health.²⁸ Increased Tooth sensitivity in the current study is not main agent by the participants 35 - above years (41.7%) in comparison to the participants ranging between 14-24 years (28%) and 25-34 years (30.3%) of age. The findings of this study are comparable to previous study where merely 10% subjects said that tooth sensitivity might be increased.¹⁹

The non-acceptance percentage for teeth surfaces becoming rough with scaling by the participants 35 - above years in our study was 43.6% which was higher than the research performed in the past where the tooth surfaces got roughened with the scaling procedure. The researcher of that study reported that the roughness in the tooth surface was because of the manual scaling which involved aggressive hand movement of the dentist. The ultrasonic scaling is more comfortable and does not promote the tooth roughness.²⁹

The large percentage of participants in our study did not feared the post scaling cross-infection, similar to another study where this percentage was low ¹⁹, despite the fact that cross-infection especially Hepatitis-B and Hepatitis-C is spread because of the dental procedures.^{12,30-32} Better results of this study might be because of the fact that environment of teaching hospital and private clinics have been improved and made safe as a result of social media awareness seminars.³³ One study depicted increased anxiety level among participants.³⁴ The participants in the current study accepted that high cost is mainly hindering them from basic dental procedures especially scaling. This percentage in the current study was higher comparatively in comparison to the studies carried out previously ^{21,35} This might be possible because of the misunderstanding of the general population that these are cosmetic oriented procedures with high costs. These individuals need to follow proper awareness programs in order to understand that these dental treatments are basic and made available at both the public and private sectors of Pakistan. Awareness should be increased and public health measures should be taken besides adopting non-invasive & safer treatment modalities.^{36,37} Provincial & national health promotion programs ought to be planned to stop & treat oral health disorders.³⁸

As a matter of fact, it is essential that proper and accurate education should be made available for the general community in any region to eliminate the deep roots of fears, myths and apprehensions attributed to the dental procedures in the current, more modern epic. Therefore, it is duty of a dentists, media activists and government for joining hands together for arranging appropriate counseling sessions, awareness campaigns and seminars of the general public for killing their false apprehensions and fears.

Limitations: Small sample size and shorter duration were the main limitations of this study.

Conclusion

Current study concluded that middle aged and elderly participants were regular dental visitors having less misconceptions and myths regarding scaling and its beneficial effects in comparison to the young participants. However, there is a dire need of educating the general community by arranging appropriate counseling sessions, awareness campaigns and seminars.

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