

Perceptions and myths regarding oral health care amongst strata of low socio economic community in Karachi, Pakistan

Saad Ahmed Khan,¹ Narendar Dawani,² Sobia Bilal³

Faculty of Dentistry, International Medical University, Kuala Lumpur, Malaysia,¹
Dr Ishrat-ul-Ebad Khan Institute of Oral Health Sciences, DUHS, Karachi, Pakistan.^{2,3}
Corresponding Author: Narendar Dawani. Email: narendarz@yahoo.com

Abstract

Objectives: To determine the prevalence of dental myths and perceived knowledge regarding oral healthcare practices and its associations with levels of education amongst low socioeconomic strata in Karachi, Pakistan.

Methods: The cross-sectional study was conducted in January 2011. Two-staged random sampling was conducted to achieve a sample size of 576 participants from 8 union councils of Gadap Town, Karachi, Pakistan. An interview-based questionnaire was used to determine the participants' perceptions towards oral health and hygiene practices as well as the prevalence of common dental myths. The subjects were interviewed through a formulated questionnaire that was cross-translated into Urdu language.

Results: Response rate from the participants was 550 (95.48%). Of the total, 270 (47%) respondents believed in the myth of tooth extraction affecting the eye vision. This was significantly associated with the socio-demography of the respondents. Besides, 421 (73%) thought that tooth extraction is not the ultimate remedy for pain relief and it was statistically significant with age and educational status of the participants. Those who considered bleeding while brushing to be normal were 144 (25%), and it was significantly associated with age and education level. Impact of oral health on general health was positively responded by 392 (68%), while 418 (72.5%) respondents did not think that the retention of baby teeth is important. Both these perceptions were significantly associated with age and level of education.

Conclusion: Pakistani population has considerable belief in myths and false perceptions regarding oral health issues. Various stakeholders should be involved to develop policies towards healthy attitudes and beliefs within the community towards their oral healthcare.

Keywords: Oral health, Perceptions, Dental myths, Beliefs. (JPMA 62: 1198; 2012)

Introduction

Oral health means much more than healthy teeth. Good oral health is a major resource for social, economic and personal development of individuals.^{1,2} Poor oral health may inflict demoralisation, dampen social relations, lead to chronic stress and depression plus bring upon oneself great financial cost. Hence, it is justifiable to say that oral health status reflects general health and quality of life.³

Globally, oral diseases are highly prevalent, affecting a significant proportion of world's population and inflicting a heavy toll in terms of morbidity and mortality.⁴ This prevalent burden of oral diseases lies on disadvantaged and poor populations, thus highlighting the 'inverse care law'.⁵ Oral disease is the fourth most expensive disease to treat.⁶ In many low-income countries of the developing world, the total cost of traditional operative dental care would exceed the entire healthcare budget.⁴ A further significant influential factor is the awareness and educational level of population which is reflected by a country's literacy rate. For an individual, education is the means of empowerment and an opportunity to nurture creative thinking and imagination. This may also enhance positive perceptions towards general as well as oral health.

Lack of education along with traditional beliefs and socio-cultural factors lead to development of false perceptions and myths. Perception is a process through which an individual becomes conscious about and interpret information regarding the situation, but the course of perception is essentially subjective in nature because it is not a precise reflection of the situation. Hence, a situation may be the same for two individuals but the interpretation of that situation by both of them may be immensely different.⁷ Regarding myth, it is imaginary, generally a false belief. However, they are considered truthful and often sacred by the societies that told them earlier.⁸ In scientific terms, myth is referred to as extensive and unquestioned false perspective.⁹ Scanty literature is available regarding the prevalence of myths and perception relating to oral healthcare. The concept of dental myth usually emerges from false traditional beliefs and non-scientific knowledge. This is embedded in the psyche of future generations over a period of time, and, thus, creates hindrance in the recognition of scientific and contemporary dental treatment.¹⁰ A study conducted in North Indian rural population reported 81% prevalence of one or more dental myths.¹¹

An individual's perception of oral health measures the value attached to oral health and the likelihood of seeking oral care to achieve optimal oral health status.¹² It has been found that the perceived oral health in poor populations is incorrect and this may serve as a barrier to their achieving optimal oral health.¹³ High relative risk of

oral disease relates to socio-cultural determinants, such as poor living conditions, low education level, and lack of traditions, beliefs and culture in support of oral health.² Many people consider oral signs and symptoms to be less important than indications of general illness and have false beliefs towards oral treatments. As a result, they may avoid or postpone the needed care, thus exacerbating the problem.¹

Pakistan is a developing nations, currently ranked 125th on the United Nation's Human Development Index with a GDP of 4.2%, per capita income of \$369.70 per person and 33% population living below national poverty line.^{14,15} The Pakistan Social and Living Measurement Survey has reported an overall literacy rate of 56% for the year 2007-2008; and 67% of the entire population resides in rural areas.¹⁶ The burden of oral problems in Pakistan is extensive and usually affects the vulnerable populations, indicating that the large number of population has low level or no awareness towards oral health and may have beliefs in false perceptions and myths.

The current study aimed at assessing the prevalence of dental myths and perceived knowledge regarding oral healthcare practices and its associations with levels of education among low socioeconomic strata in Karachi, Pakistan.

Subjects and Methods

The cross-sectional analytical study was carried out in different villages of Karachi, which overall comprises 18 towns with different union councils (UCs) within each town, with a total population of 2.8 million.¹⁷ Gadap Town is one of the semi-urban area of Karachi, having eight UCs. It is located on the outskirts of the city and was chosen as the geographical area for the sample population which was a good representation for this study.

Two-staged random sampling technique was used. In the first stage, out of the 18 towns in Karachi, one main stratum of Gadap Town and its eight UCs were selected which would constitute mix group of socioeconomic status (SES) community and giving true representation of other towns of Karachi. In the second stage, online sample size calculator was used using 95% confidence interval for a population of approximately 35,000 residents of Gadap involving all 8 UCs within the town. The required sample size was calculated making sure it was large enough to give adequate precise estimation (95% CI). A minimum sample size of 550 was found to be sufficient to give adequately precise prevalence estimation (for example, 95% probability that the sampling error should not exceed +/- 5% if low SES of population sample is assumed at 15%). Therefore, 576 people were recruited to participate in the

study. All genders, races and educational levels were invited and included among the participants except people below 18 and above 60 years of age. A team of 12 calibrated members carried out interview-based survey. One UC was covered per day, with two members assigned to each village. They interviewed 12 participants from each of the six villages of one UC respectively, thus, surveying 72 participants in a single day. Hence, all the UCs were covered in 8 working days. The participants were randomly selected using street survey intercept method, the location were generally outside local schools, hospitals or main commercial markets to have a good mix of all backgrounds.

The project was approved by the ethics committee of the Dow University of Health Sciences, confidentiality and anonymity was assured. The participation was voluntary and based on verbal informed consent. The questionnaire was formulated based on myths and perceptions of local rural population and questions from several studies were also considered for the purpose. The questionnaire was then translated into Urdu language by a panel of professionals from members of University of Karachi and then back-translated to test its reliability and validity. The questionnaire was tested on 18 participants from the same sample population for content validation before it was administered.

The questionnaire comprised socio-demographic

details of the participants such as their age, gender, education level and employment status, followed by questions regarding common myths and perceptions of participants towards dental treatment, oral health and their oral hygiene practices.

SPSS 17.0 was used for statistical analysis. Chi-square test was used to determine if there were any associations found between demographics and the myths and perceptions amongst the community. Statistical significance was defined at $p < 0.05$.

Result

A response rate of 95.48% (550 out of 576) was achieved; the dropout was due to gender disparities and linguistic difficulty.

Of the total, 260 (47.3%) were males and 290 (52.7%) were females; 203 (38%) were aged between 18-25 years; 177 (33.6%) were 26-40 years old, and 147 (27.9%) were older than 40 years. Only 169 (30.7%) of the participants were educated, while 310 (56.4%) were unemployed (Table-1).

Of the total, 257 (47%) respondents believed in myth that tooth extraction affects eye vision. The belief had a significant association with age ($p < 0.00$), gender ($p < 0.001$) and educational level ($p < 0.00$) of the individuals (Table-2).

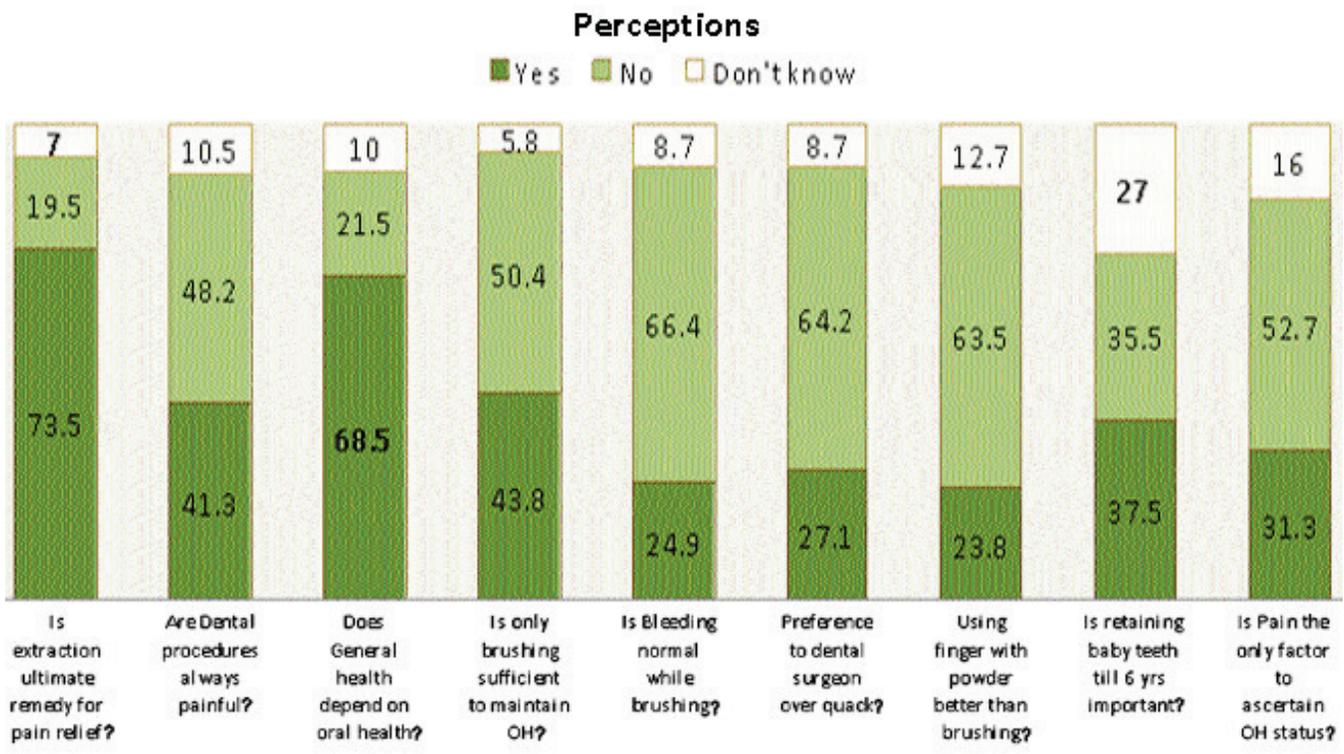


Figure-1: Responses to the perceptions towards oral health and hygiene practices.

Table-1: Demographic characteristics.

Characteristics	Frequency	Percentage (%)
Age (years)		
18 - 25	203	38.5
26 – 40	177	33.6
>40	147	27.9
Gender		
Male	260	47.3
Female	290	52.7
Educational status		
Educated	169	30.7
Uneducated	381	69.3
Employment status		
Employed	240	43.6
Unemployed	310	56.4
Responses towards Dental Myth		
Positive	257	46.7
Negative	208	37.8

to be significantly related to age ($p < 0.080$), gender ($p < 2.12$), education ($p < 0.054$) and employment status ($p < 0.658$). Besides, 227 (42%) reflected the notion that dental procedures are always painful, and it was significantly associated with education level alone ($p < 0.020$).

Regarding brushing being sufficient to maintain oral hygiene, 241(44%) responded in the affirmative, with it being significantly associated only with education level ($p < 0.00$); and 137 (25%) considered bleeding while brushing to be normal and it was significantly associated with age ($p < 0.039$) and education level ($p < 0.00$); 349 (64%) believed brushing is a better method of cleaning teeth in comparison to use of finger with toothpowder, and this perception was also found to be significantly associated with age ($p < 0.00$) and education status ($p < 0.022$).

Table-2: Associations of dental myth and oral health perceptions with Age, Education status and Gender of the study participants.

Study Variables	Age (p value <0.05)	Education Status (p value <0.05)	Gender (p value <0.05)
Dental Myth	< 0.001	< 0.001	0.001
Extraction the Ultimate remedy	< 0.001	< 0.001	0.870
Preference to a qualified surgeon over a quack	0.08	< 0.001	0.212
Dental procedures are always painful	0.862	0.020	0.925
Brushing sufficient to maintain OH	0.223	< 0.001	0.675
Bleeding normal during brushing	0.039	< 0.001	0.794
Using a toothbrush better then finger	< 0.001	0.022	0.097
OH impacts general health	0.024	< 0.001	0.363
Retaining baby teeth is important	0.048	0.004	0.443
Pain, the key factor in ascertaining OH status	0.033	0.039	0.238

OH: Oral Health.

Besides, 404 (73%) thought that tooth extraction is not the ultimate remedy for tooth pain relief (Figure) and it was found to be significantly associated only with age ($p < 0.00$) and educational level ($p < 0.00$) of the participants. Also, 353 (64%) said they would prefer a qualified dental surgeon over an unqualified practitioner and it was not found

The impact of oral health on general health was positively responded to by 377 (68%) participants, while 206 (37.5%) considered retention of baby teeth to be important. Both these perceptions were found to be significantly associated with age ($p < 0.024$, 0.048) and education level ($p < 0.000$, 0.004). Besides, 172 (31%) replied that pain is the key factor to ascertain one's dental health status; and it was found to be significantly associated with age ($p < 0.033$) and education status ($p < 0.039$).

Discussion

Inequalities in oral health persists worldwide, with the mainly affected being the deprived populations.¹⁸ Pakistan has a low budget to meet the general population's treatment needs, a high disease burden, and a low literacy rate. All these factors predispose the general population to false oral health care and treatment need assumptions and beliefs. This also inclines them to discover other means of pain relief such as, either referring to an unqualified quack or achieving symptomatic relief through home remedies rather than consulting a professional dentist. The results of the current study show that the low socioeconomic strata in

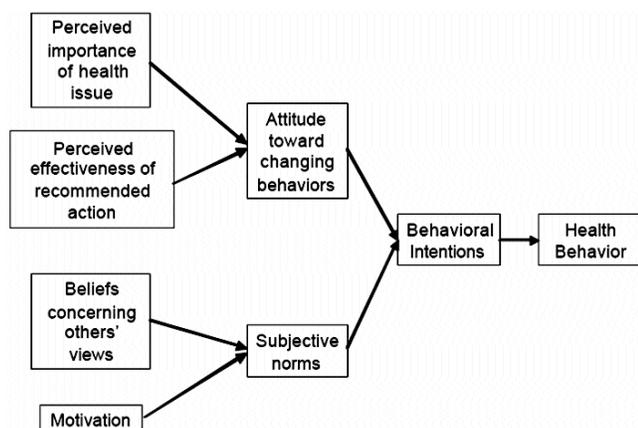


Figure-2: The Theory of Reasoned Action.

Pakistan has poor education status and high rate of unemployment, which demonstrates statistical significance with false beliefs and negative perceptions towards oral health. Age played a considerable role, as high percentage of older individuals in the study had beliefs in myths and pessimistic perceptions towards oral health. The geriatric population usually inherits strong cultural and tradition beliefs, which leaves a lifelong effect on their health behaviour. This population may also play an influential role during the development of younger individuals. A study conducted in India reported that high percentage of illiterates, mainly the male population, had beliefs in one or more dental myths.¹¹ Both these findings are seconded by the results of the current study.

To overcome this problem, education should be provided at all age levels which helps in internal consciousness raising, empowerment and also alters unhealthy behaviour and practices. In this regard, various models have been proposed to understand the complex relationship between an individual's behaviour and capability of adopting healthy practices. One of them is the 'theory of reasoned action' which analyses the impact of health education and perceptions on health behaviours.¹⁹ This theory clarifies that performance of an individual's behaviour is primarily determined by his intentions towards the proposed behaviour which is further influenced by his attitude towards that behaviour, the outcome of it and how do other people socially perceive the current and proposed behaviour. All these factors influence a person's motivation and compliance towards behaviour change (Figure-2).

One of the positive findings of the study was that a high percentage of study population believed that the extraction of a painful tooth is not the ultimate remedy for pain relief. This shows that they may be aware of other available treatment options for curing tooth pain. This perception was found to be significantly associated with age and education level of the participants. The younger generation had a more positive perception compared to older population which shows that they are better informed about oral health issues. Similarly, the educated participants responded more positively towards the perception in question compared to un-educated participants.

Another optimistic finding was that a significant proportion of participants preferred a qualified dental surgeon over an alternative dental practitioner (quack) and it had no relation with the socio-demography of the individuals. A prominent percentage of respondents perceived that dental procedures are always painful and this was found to be directly associated with the education status as those who were educated thought that pain varies with every dental procedure. Keeping these perspectives in view,

the aim should be to counsel the community members where these myths are prevalent. This can be achieved through 're-orientation of health services'²⁰ in which every healthcare professional should take responsibility to educate not at individual level, but, at the level of masses. In order to gain acceptance by society, the health education message should be in clear words, in local language and be sent in a friendly manner. The best means to counter the myths is to base your suggestions proven through evidence. Evidence-based dentistry advances the use of research evidence effectively in routine clinical practice and improves the dental health professionals' knowledge regarding effective treatment measures, patient counselling and aid in clearing misconceptions towards various oral health issues.²¹ Hence, a true evidence-based picture would hold more solid ground for the masses to recognise their false perceptions and beliefs, and the need to modify them according to the truthful information attained.

The responses for oral hygiene practices such as tooth-brushing being sufficient to maintain oral hygiene and bleeding to be normal while brushing teeth were not up to the satisfactory level. The educated participants were being more knowledgeable about both the above queries, while older and younger individuals had significant difference in their perceptions. However, a pronounced portion of the sample population thought that tooth-brushing is better than using a finger with tooth-powder, with both the educated and younger generation being better informed about this practice. Such a low level of oral hygiene practices would not have been observed if oral health education, promotion and preventive programmes had been carried out in communities that lack access to care. This helps in 'developing personal skills'²⁰ of individuals and the society, which can be achieved by the help of community healthcare professionals.

Compared to their above knowledge and perceptions, a higher percentage of respondents believed that oral health affects the overall general health. This vital concept was for the first time highlighted by the World Health Organisation to educate the public about the manner in which oral health influences the overall health.³ Also, a minor proportion of the study population realised the importance of retaining baby teeth till the age of six years. Both these perspectives were more prevalent among the young and the more educated individuals. The importance of baby teeth should be communicated to the masses as they are vital for masticatory functions, aesthetics, guideline for the eruption of permanent dentition and proper jaw development.

Almost one-third of the participants believed that pain is a key factor to ascertain the status of dental health.

The significant finding showed that younger individuals had enhanced perception about self-assessed dental status.

The study had one main limitation which was the use of convenience sampling. It limits the degree to which the results may be generalised for the population of the present setting of Karachi. This may result in the exclusion of groups which may have high prevalence of dental myths and false perceptions, such as children, disabled individuals, the elderly with multiple diseases. Hence, this will result in under-estimation and hindrance of the true findings of the population in general. Another limitation of the study was that other existing dental myths were not probed. Hence, in this regard a pilot study is in progress, with open-ended questions to determine the prevalence of common dental myths which might be currently practised in the low socioeconomic strata of Karachi. Implication of future research should be to conduct a national cohort study to assess the insight of Pakistani population in the same context.

Conclusion

Pakistan, being a country with high poverty and below-average literacy rate, predisposes its deprived population to persist with their inherent false beliefs. This, in turn, reflects their perceptions towards oral hygiene practices and awareness towards oral care.

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