

ASSESSMENT OF DENTAL MYTHS AMONG SUBJECTS AGED 15 AND ABOVE ATTENDING A DENTAL INSTITUTION IN KARNATAKA

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ABSTRACT

Most of the human beliefs are acquired through communication, which is not always substantiated by facts and prevalent due to a variety of reasons like illiteracy, cultural beliefs and misconceptions. These beliefs in the field of dentistry misguide the patients and are a barrier in oral care delivery system. **Aim: assess dental myths and** to find out the association between the age, **among the subjects attending a dental institute.** **Methodology:** A self-administered questionnaire was used among 367 participants aged 15 years and above selected randomly. **Results:** There was a statistically significant association between age and questions related to teething, spreading of dental infection, burying of exfoliated tooth, old age tooth eruption, swelling and abscess, leaching of calcium etc. **Conclusion:** Many subjects were surprisingly unaware of the facts of dentistry. The various myths still persisted in minds of general population which need to be corrected.

Key words: misbeliefs, taboos in dentistry, dental misconception.

INTRODUCTION

Culture is the product of human societies and man is largely a product of his cultured environment. It is defined as “learned behavior which has been socially acquired.”¹ Most of humans' beliefs, or at least most of their general beliefs, are acquired through communication. In fact, most of our misbeliefs are culturally transmitted misbeliefs rather than individual mistakes, distortions, or delusions.²

Myths take a very natural unknown origin in every community, describing plausible but, extraordinary past events.³ In our country, traditional belief of non-scientific base and untrained unqualified dental professionals (quacks) are the main origin of myth.⁴

Most of these beliefs, especially in the field of dentistry misguide the patients and it is also a prime barrier in the oral care delivery system and also in the dental utilization pattern.² Lots of myths along with dentistry related myths, which are considered as not to be false often, make people hesitate.⁵

Some of the myths are factual and thus can be believed. It's very much necessary to understand and to know what reality is. According to earlier literature the main reason for dental myths among dental patients was lack of awareness.⁵ Search of the literature revealed limited studies and data available related to this subject.

The aim of this study was to assess dental myths and to find out the association between the age among the subjects attending Coorg Institute of Dental Sciences (CIDS), Virajpet, Karnataka.

MATERIALS AND METHODS

The study was conducted among 367 subjects aged 15 years and above attending outpatient department of Coorg Institute of Dental Sciences, Virajpet. Ethical clearance was obtained from the

institutional review board and individual informed consent was taken. Those subjects who were not willing to participate and subjects in critical and emergency conditions were excluded. The study was conducted in the month of May and June 2014.

A pretested close-ended self-administered questionnaire was used to collect data on dental myths and age.

The validity of questionnaire was checked by conducting a pilot study on 20 subjects visiting the dental college.

The questionnaire was designed in English and then it was translated into Kannada and Malayalam. Kannada/ Malayalam/ English questionnaire was given according to the preferences of the participants. Questionnaire was distributed randomly to the participants and sufficient time was given to answer the questionnaire which was collected back on the same day.

2.1 Sample size is calculated using the relation $n = N / 1 + Ne^2$, Where level of precision is 95%, i.e., $e = 0.05$ Total number of new subjects attending CIDS per day = 70 to 80 (75 ± 5)

Total number of new subjects attending CIDS in 2 months = $75 \times 60 = 4500$ Substituting the values in the above mentioned formula, the sample size obtained for the Study was, $n = 4500 / 1 + (4500 \times [0.05 \times 0.05]) = 367$

2.2 Statistical Analysis:

The survey data so obtained from the selected sample was compiled, systematized, tabulated and master sheet was prepared (MS-Office, Excel). The data was analyzed using R software version 3.1.0 and Microsoft Office Excel 2007. The level of significance was set at 5%.

3. Results

Table no.1 shows that study population

consisted of 46.6% (n=171) females and 53.4% (n=196) males and majority of the subjects were in the age group of 15-35 years (64.3%).

Age	No. of subjects	Male (%)	Female (%)
15-35 yrs.	236 (64.3%)	127 (53.8)	109 (46.2)
36-55 yrs.	115 (31.3%)	60 (52.2)	55 (47.8)
>55 yrs.	16 (4.4%)	9 (56.3)	7 (43.7)
Total	367	196	171

Table no 2, 3 and 4 shows that there was a statistically significant association between age and the following questions: Q2- dental infection will spread among siblings ($p<0.025$); Q3- Dental infection results from god's Curse($p<0.000$); Q15- exfoliated tooth should be buried($p<0.025$); Q16- tooth will erupt at old age ($p<0.001$); Q20- we should not extract or do RCT when we have a swelling especially abscess ($p<0.013$); Q26- teeth eruption in child causes diarrhoea ($p<0.050$); Q30- cavity is due to leaching of calcium by baby during pregnancy ($p<0.008$).

However there was no statistically significant association between age and the following questions: Q1- teething will lead to dysentery ($p<0.777$); Q4- cleaning with salts or fine soil will make tooth white and shiny($p<0.436$); Q5- of "neemstick" or "datoon" instead of toothbrush will be more effective for oral hygiene($P<0.397$); Q6- use of brick powder makes the teeth strong($P<0.137$); Q7- biting of hard substances will make the teeth strong ($p<0.547$); Q8- stains are due to biting of brinjal or banana stem($P<0.654$); Q9- scaling will weaken the tooth structure ($P<0.223$); Q10- placing of tobacco over painful tooth will reduce pain ($p<0.428$); Q11- consumption of alcohol will reduce tooth pain($p<0.222$); Q12- extraction of teeth will affect eye vision ($p<0.799$); Q13- extraction of upper teeth will affect brain ($p<0.637$); Q14-

eruption of third molar will increase wisdom($p<0.519$); Q17- brushing several times a day and using too much force help to prevent tooth decay ($p<0.275$); Q18- there is no need to see a dentist if you don't feel or see apparent dental problem ($p<0.504$); Q19- we should not eat anything when we are going for tooth extraction ($p<0.339$); Q21- a pregnant lady is not supposed to take dental treatment until after delivery ($p<0.218$); Q22- the sure way of treating toothache is extraction ($p<0.300$); Q23- putting powder of pain killer like aspirin, pandol and cafenol in the hole of decay tooth help to stop pain ($p<0.420$); Q24 - good teeth are inherited ($p<0.108$); Q25- there is no need to worry

About milk teeth as they will eventually fallout with time ($p<0.140$); Q27- a child born with teeth (neonatal) or whose upper front teeth erupt before the lower tooth is a sign of bad luck in the family ($p<0.341$); Q28- X-ray is not required for dental treatment ($p<0.083$); Q29- we should not brush our teeth if there is bleeding during brushing ($p<0.186$); Q31- there are more than two sets of teeth in some human being ($p<0.391$)

Table-2: Association between the age and the various questions of the questionnaire

Age group		15-35yrs	36-55yrs	>55yrs	Total (%)	chi-square test	p-value
Q1	Agree	92 (39.0)	49(42.6)	7 (43.8)	148 (100)	0.504	0.777
	Disagree	144(61.0)	66(57.4)	9 (56.3)	219 (100)		
Q2	Agree	69 (29.2)	21(18.3)	7 (43.8)	97 (100)	7.372	0.025*
	Disagree	167(70.8)	94(81.7)	9(56.3)	207 (100)		
Q3	Agree	23 (9.7)	15(13.0)	7 (43.8)	45 (100)	16.200	0.000**
	Disagree	213(90.3)	100(87.0)	9 (56.3)	322 (100)		
Q4	Agree	132(55.9)	69 (60.0)	7 (43.8)	208 (100)	16.59	0.436
	Disagree	104(44.1)	46 (40.0)	9 (56.3)	159 (100)		
Q5	Agree	121(51.3)	61 (53.0)	11(68.8)	193 (100)	18.50	0.397
	Disagree	115(48.7)	54(47.0)	5 (31.3)	174 (100)		
Q6	Agree	46 (19.5)	19 (16.5)	6 (37.5)	71(100)	3.971	0.137
	Disagree	190(80.5)	96(83.5)	10(62.5)	296 (100)		
Q7	Agree	70 (29.7)	30(26.1)	3 (18.8)	103 (100)	12.08	0.547
	Disagree	166(70.3)	85(73.9)	13(81.3)	264 (100)		
Q8	Agree	95(40.3)	41(35.7)	7(43.8)	143(100)	0.850	0.654
	Disagree	141(59.7)	74(64.3)	9 (56.3)	224(100)		
Q9	Agree	80(33.9)	29(25.2)	6 (37.5)	115 (100)	3.004	0.223
	Disagree	156(66.1)	86(74.8)	10(62.5)	252(100)		
Q10	Agree	86 (36.4)	34(29.6)	6 (37.5)	126 (100)	16.96	0.428
	Disagree	150(63.6)	81(70.4)	10(62.5)	241(100)		

* $P<0.05$, ** $P<0.01$

Table-3: Association between the age and the various questions of the questionnaire

Age group		15-35yrs	36-55yrs	>55yrs	Total (%)	chi-square test	p-value
Q11	Agree	61(25.8)	27(23.5)	7(43.8)	95(100)	3.009	0.222
	Disagree	175(74.2)	88(76.5)	9(56.3)	272(100)		
Q12	Agree	72(30.5)	38(33.0)	6(37.5)	116(100)	0.499	0.799
	Disagree	164(69.5)	77(67.0)	10(62.5)	251(100)		
Q13	Agree	77(32.6)	40(34.8)	7(43.8)	124(100)	0.903	0.637
	Disagree	159(67.4)	75(65.2)	9(56.3)	243(100)		
Q14	Agree	74(31.4)	34(29.6)	7(43.8)	115(100)	1.314	0.519
	Disagree	162(68.6)	81(70.4)	9(56.3)	252(100)		
Q15	Agree	56(23.7)	41(35.7)	7(43.8)	104(100)	7.370	0.025 *
	Disagree	180(76.3)	74(64.3)	9(56.3)	263(100)		
Q16	Agree	48(20.3)	44(38.3)	6(37.5)	98(100)	13.685	0.001 **
	Disagree	188(79.7)	71(61.7)	10(62.5)	269(100)		
Q17	Agree	130(55.1)	72(62.6)	11(68.8)	213(100)	2.586	0.275
	Disagree	106(44.9)	43(37.4)	5(31.3)	154(100)		
Q18	Agree	122(51.7)	61(53.0)	6(37.5)	189(100)	1.369	0.504
	Disagree	114(48.3)	54(47.0)	10(62.5)	178(100)		
Q19	Agree	67(28.4)	41(35.7)	4(25.0)	112(100)	2.163	0.339
	Disagree	169(71.6)	74(64.3)	12(75.0)	122(100)		
Q20	Agree	134(56.8)	78(67.8)	14(87.5)	226(100)	8.738	0.013 *
	Disagree	102(43.2)	37(32.2)	2(12.5)	141(100)		

* P<0.05; ** P<0.01

Table-4: Association between the age and the various questions of the questionnaire

Age group		15-35yrs	36-55yrs	>55yrs	Total (%)	chi-square test	p-value
Q21	Agree	122(51.7)	68(59.1)	11(68.8)	201(100)	3.046	0.218
	Disagree	114(48.3)	47(40.9)	5(31.3)	166(100)		
Q22	Agree	70(29.7)	36(31.3)	2(12.5)	108(100)	2.409	0.300
	Disagree	166(70.3)	79(68.7)	14(87.5)	259(100)		
Q23	Agree	84(35.6)	46(40.0)	8(50.0)	138(100)	1.736	0.420
	Disagree	152(64.4)	69(60.0)	8(50.0)	229(100)		
Q24	Agree	99(41.9)	52(45.2)	11(68.8)	162(100)	4.444	0.108
	Disagree	137(58.1)	63(54.8)	5(31.3)	205(100)		
Q25	Agree	146(61.9)	80(69.6)	13(81.3)	239(100)	3.935	0.140
	Disagree	90(38.1)	35(30.4)	3(18.8)	128(100)		
Q26	Agree	84(35.6)	54(47.0)	9(56.3)	147(100)	5.986	0.050*
	Disagree	152(64.4)	61(53.0)	7(43.8)	220(100)		
Q27	Agree	53(22.5)	30(26.1)	6(37.5)	89(100)	2.153	0.341
	Disagree	183(77.5)	85(73.9)	10(62.5)	278(100)		
Q28	Agree	54(22.9)	39(33.9)	5(31.3)	98(100)	4.984	0.083
	Disagree	182(77.1)	76(66.1)	11(68.8)	269(100)		
Q29	Agree	81(34.3)	49(42.6)	8(50.0)	138(100)	3.359	0.186
	Disagree	155(65.7)	66(57.4)	8(50.0)	229(100)		
Q30	Agree	62(26.3)	36(31.3)	10(62.5)	108(100)	9.754	0.008**
	Disagree	174(73.7)	79(68.7)	6(37.5)	259(100)		
Q31	Agree	95(40.3)	51(44.3)	9(56.3)	155(100)	1.878	0.391
	Disagree	141(59.7)	64(55.7)	7(43.8)	212(100)		

* P<0.05; ** P<0.01

DISCUSSION

Oral hygiene awareness and practices may differ from country to country and among communities depending on traditional beliefs and socioeconomic development.⁴

In the present study 40.3% of the study population believed that teething led to dysentery. This was in agreement with the study done by N Saravanan and R Thiruneevannan, where 61% of the respondents thought teething will leads to dysentery.

In the present study 12.3% of the study participants thought “Dental infection results from God's Curse”. This result can be compared with the study done by N Saravanan and R Thiruneevannan where 97% of the participants disagreed with it.

56.7% of the study participants believed that dental infection spread among siblings. This was in contrast with the results of the study done by N Saravanan and R Thiruneevannan, where only 13% thought so.

In the present study, 28.1% of the participants agreed that biting of hard substances made the teeth strong. Whereas in a study done by N Saravanan and R Thiruneevannan only 5% thought so.

One more finding in the present study was, 52.6% of the study participants agreed that the use of neemstick instead of toothbrush was more effective for oral hygiene. The result was in contrast to the study done by N Saravanan and R Thiruneevannan where only 18% believed so. The use of *datoon* or *neem twig* chewing is still very popular in rural India, as an oral hygiene measure and though it is inferior to tooth-brushing, its massaging action thought it probably the next best option.^{4, 11} In the study done by S.V.Saumyendra et al, 21% subjects follow oral hygein measures by datoon or neem.

The present study showed that 39% of the participants agreed that stains were due to biting of brinjal or banana stem. The result was in contrast to the study done by N Saravanan and R Thiruneevannan where

8% believed in the myth.

We found that 31.3% of the study participants agreed that scaling would weaken the tooth structure, which was in agreement with the study done by N Saravanan and R Thiruneevannan where 34% believed that scaling would weaken the tooth structure. However the result was in contrast with the study done by Vignesh R and Priyadarshni I, where 63.2% of respondents believed that professional scaling led to sensitivity, mobility in teeth and also created gap between them.

37.6% of the study participants thought that they should not brush their teeth if there was bleeding during brushing. This can be compared with finding of the study done by Vignesh R and Priyadarshni I, where 51.6% of respondents believed that when gum bleed, it's better not to brush and floss the teeth.

In the present study 34.3% believed that placing of tobacco reduces tooth pain. Smoking and chewing tobacco have been previously recorded as integral to Indian rural way of life, where tobacco is primarily ingested as *Gutkha* and *Khaini*.⁴

25.9% study participants believed that consumption of alcohol reduced tooth pain. Whereas in the study done by N Saravanan and R Thiruneevannan 84.6% disagreed with the statement.

In the present study 58% participants thought that brushing several times a day and using too much of force helped in preventing tooth decay. In a study done by Vignesh R and Priyadarshni I, 70% respondents believed that the more they brushed using hard bristled brush more whiter the teeth became.

Abysmally our survey showed, 31.6% of the subjects agreed that extraction of teeth had an effect on eye vision. This result is in agreement with the studies done by Khan SA et al, Singh SV et al, Vignesh R et al where 47%, 26.9%, and 36.4% believed so respectively.

In the present study, 33.8% of the subjects believed that extraction of upper teeth affected the brain. Whereas only 7% thought so in a study done by N Saravanan and

R Thiruneevannan.

In the present study, 30.5% of subjects agreed that they should not eat anything when they are going for tooth extraction. In a study done by Kwan SYL, Holmes MAM, elderly female group believed that certain time periods of a day were not considered suitable for dental treatment, such as soon after eating; most suitable time for extraction would be nine o'clock in morning before food.¹³

In our study, 26.7% of the study participants believed that tooth erupted at old age. It was found to be significantly associated with age. 11% thought so in the study done by N Saravanan and R Thiruneevannan. 31.3% agreed that eruption of third molar increased wisdom in the present study. This result was in contrast with the study done by N Saravanan and R Thiruneevannan where only 4% believed so.

51.5% of the study participants thought that there was no need to see a dentist if there is no apparent dental problem. These results were in agreement with the study done by Vignesh R and Priyadarshni I, where 68.4% believed that it is not required to visit a dentist unless pain occurred in teeth.

In the present study, 54.8% subjects believed that a pregnant lady is not supposed to take dental treatment until after delivery. In the study done by Vignesh R and Priyadarshni I, 56.8% of respondents believed that it is better to avoid dental treatment during pregnancy.

In the present study 26.7% participants believed that child born with teeth or whose upper front teeth erupted before the lower teeth was a sign of bad luck in the family. Kwan SYL et al had stated that “a baby born with teeth is seen as a sign of bad luck, indicating either that the infant has been cursed by a devil or that it was retribution for something evil that the family had done” in their study.¹³

65% of the study subjects thought that there was no need to worry about milk teeth as they would eventually fallout with time. This was in the agreement

with the study done by Vignesh R and Priyadarshni I, where 64.8% respondents believed that decay in milk teeth need not be treated as they are going to fall away.

29.4% of the study participants thought that, cavity was due to leaching of calcium from the mother to the baby during pregnancy. In a study done by Kwan SYL et al, the result showed that the female adult group believed that it is impossible to stop the baby from taking the calcium from the mother.¹³

28.3% of the respondents believed that exfoliated tooth should be buried. In a study done by N Saravanan and R Thiruneevannan, only 6.6% thought so.

Since “don't know” was not provided as an alternative, subjects were compelled to choose either of the two given options agreed / disagreed. This would have affected the study results either by overestimating or underestimating the myths present in the population.

CONCLUSION

Surprisingly, in the 21st century with lot of advancements in dental field several patients are unaware of the facts of dentistry. In the present study the myths about dentistry varied up to 65% in some questions. More than 50% of subjects had myths in many questions. The various myths still persisted in minds of general population which need to be corrected. Hence, it's our duty to create awareness among people and take necessary steps to rectify them.

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