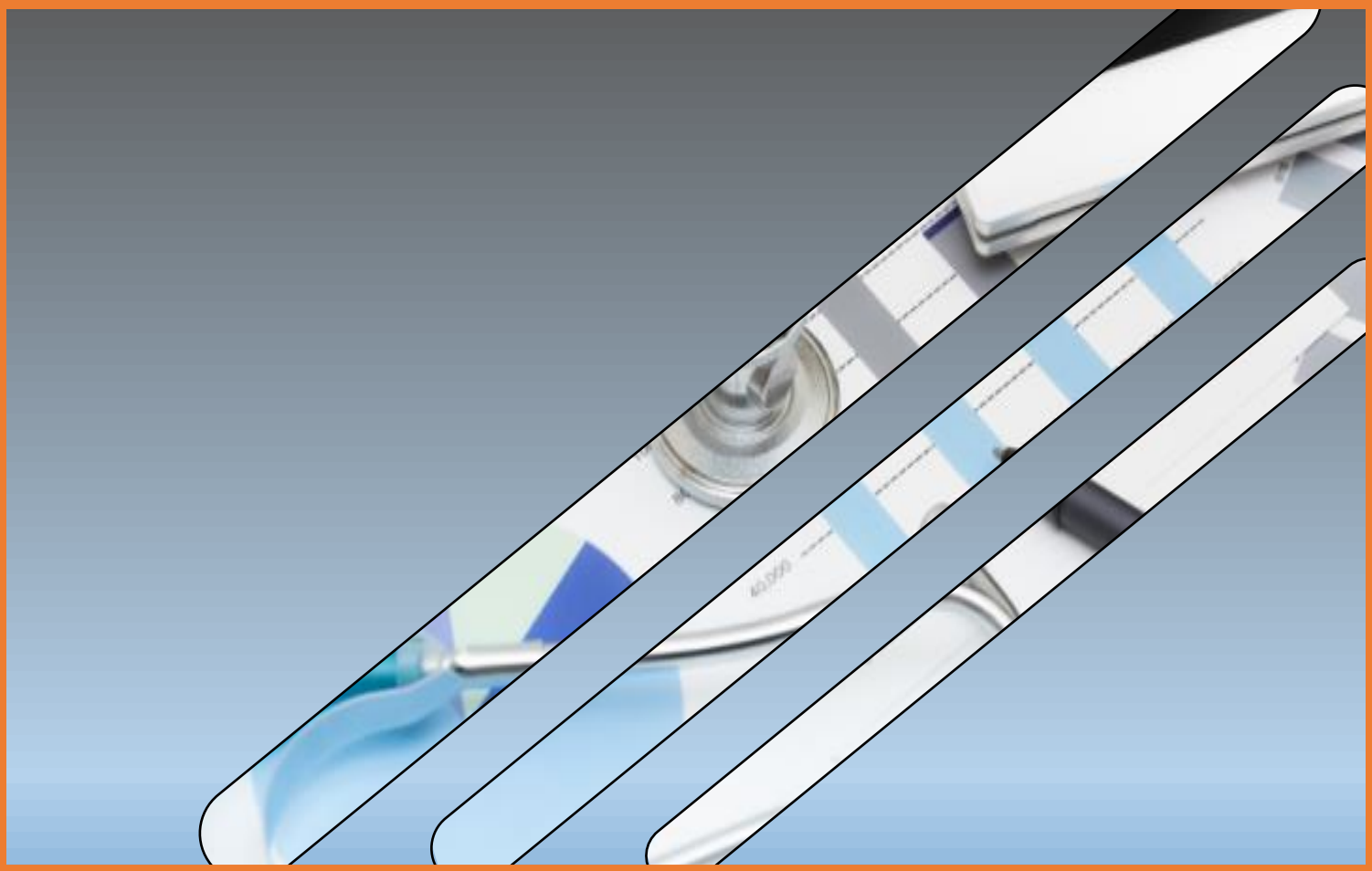

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GUEST COMMENT

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Importance of Nurses & Midwives in the Upcoming Era

[International Year of the Nurse and the Midwife (2020) Guest Comment]

Dr. Neha Vaid

Nurses and midwives play a central role in all health systems. They support people in every aspect of their health and wellbeing – from health promotion to chronic disease management and specialist services.[1] Health 2020, the European policy framework for health and well-being was adopted by the 53 Member States of the Region at the sixty-second session of the WHO Regional Committee for Europe in September 2012. Health 2020 aims to support action across government and society to "significantly improve the health and well-being of populations, reduce health inequalities, strengthen public health and ensure people-centred health systems that are universal, equitable, sustainable and of high quality."[2] Health 2020 also highlights nurses and midwives as having key personals and supposed to play important roles in society's efforts to tackle the public health challenges of our time, ensure the continuity of care and address peoples' rights and changing health needs.[2]

Nurses and midwives together form the largest health professional group in all countries[2] and accounts nearly 50% of the global health workforce. There is a global shortage of health workers, in particular nurses and midwives, who represent more than 50% of the current shortage in health workers. The largest needs-based shortages of nurses and midwives are in South East Asia and Africa. For all countries to reach Sustainable Development Goal on health and well-being, WHO estimates that the world will need an additional 9 million nurses and midwives by the year 2030.

The Executive Board at its 144th session in January 2019, considered the subject of human resources for health. The Board drew attention to the vital role and contributions of nurses and midwives in achieving universal health coverage. Noting that 2020 was the 200th anniversary of the birth of one of the founders of modern nursing, Florence Nightingale, the Board recommended to the Health Assembly to designate 2020 as the Year of the Nurse and the Midwife.[3] As stated by Dr. Tedros Adhanom Ghebreyesus, director general of the World Health Organization (WHO) these two health professions are invaluable to the health of people everywhere. He further emphasis that "Without nurses and midwives, we will not achieve the sustainable development goals or universal health coverage."[4]

In developing countries like India both nurses and midwives play a vital role in promoting quality health services especially maternal and newborn health services, and can significantly help in reduction of maternal and new-born mortality and morbidity. The Government of India under the banner of Ministry of Health and Family Welfare formulated certain guidelines on midwives services and also recommends courses for midwifery training and certification so that the shortage of personals in this sector can be reduced. Much emphasis should be given in training and certifying number of personals especially women in this sector that can help in achieving good personal care and treatment within the communities and can play a key role in public health and controlling diseases and infections.

REFERENCES

1. Crisp N, Brownie S, Refsum C. Nursing and Midwifery: The key to the rapid and cost-effective expansion of high-quality universal health coverage. Doha, Qatar: World Innovation Summit for Health, 2018
2. Nurses and Midwives: A Vital Resource for Health European compendium of good practices in nursing and midwifery towards Health 2020 goals.
3. https://apps.who.int/gb/ebwha/pdf_files/WHA72/A_72_54Rev1-en.pdf [Last Accessed on 12th December, 2019]
4. https://www.nursingtimes.net/news/policies-and-guidance/who-confirms-2020-as-international-year-of-nurse-and-midwife-24-05-2019 [Last Accessed on 12th December, 2019]

5. National Health Mission. Ministry of Health and Family Welfare, Government of India. Guidelines On Midwifery Services In India 2018. [Online PDF]. Available From: *https://nhm.gov.in/New_Updates_2018/NHM_Components/RMNCHA/MH/Guidelines/Guidelines_on_Midwifery_Services_in_India.pdf* [Last Accessed on 12th December, 2019]

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SYSTEMATIC REVIEW

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Prevalent Dental Myths and Practices in Indian Population- A Systematic Review

SAKSHI JOSHI*[1], SHALINI GARG[2], ABHISHEK DHINDSA[3], NEETU JAIN[4], SHASHI SINGH[5]

ABSTRACT

OBJECTIVES: The present systematic review was conducted to assess knowledge and awareness on prevalent dental myths related to infant teething, pregnancy and cleft lip and palate and various oral health habits in Indian population.

MATERIALS AND METHOD: Electronic and manual database was searched vigorously between period of January 1994 to January 2017 using PUBMED and GOOGLE SCHOLAR search engines to include relevant studies from peer-reviewed journals which have been conducted in India.

RESULTS: A total of 24 scientific questionnaire studies conducted in various states of India were included. 16 out of 24 studies (66.67%) dealt with various dental myths and practices prevalent among rural Indian population whereas only 1 study included both urban and rural populations. Region wise maximum studies were conducted in Southern region [8 studies (33.3%)] followed by 7 studies (29.16%) in Northern, 6 studies (25%) in Western and 1-1 study (4.16% each) in Eastern and Central India respectively.

CONCLUSION: The results indicate that the knowledge and awareness levels about dental myths and oral practices in both rural and urban population in various regions of India is inadequate. It is necessary for dental practitioners to educate masses for better dental health.

KEYWORDS: Pregnancy, Cleft Lip, Cleft Palate, Teething

INTRODUCTION

With a total of 645 district tribes present throughout its 29 states and 7 union territories, India has a wide religious and cultural diversity. This religious and cultural diversity plays an integral role in shaping individual's belief system. In epistemology, philosophers use the term "belief" to refer to personal attitudes associated with true or false ideas and concepts.[1] The interaction between socio-cultural system and individual helps in defining their social and cultural beliefs. The religious beliefs are derived from the ideas that are exclusive to religion. They are mostly practised on the basis of the teachings of a spiritual leader or group.

Culture is depicted by the values, beliefs and practices shared by the people and it has its own impact on individual's general and oral health.[2,3]

Factors that lead to the development of myths and false perceptions include lack of education along with sociocultural factors and traditional beliefs. Myths mostly arise as either truthful depiction or over-elaborated account of historical events or as an explanation of a ritual. Dental myths usually emerge from false traditional beliefs and non-scientific knowledge.[4] These myths are further embedded into the psyche of future generations over a period of time and thus, creates interference in the acknowledgement of scientific and contemporary dental treatment.[5] The present systematic review was conducted on available literature on various dental myths and practices which are prevalent in various regions of India.

The aim of this systematic review were:

- To assess the various dental myths related to infant teething, cleft lip and palate, pregnancy and oral dental practices prevalent in the specific regions of India.
- To assess the knowledge and awareness of population in a specific region on dental myths and habits prevalent in that region.

MATERIALS AND METHODS

The present systematic review was conducted to determine the awareness and knowledge of population about various dental myths and oral health habits in India.

Inclusion criteria for the studies: (1) Studies conducted in India; (2) published in English language; (3) studies evaluating knowledge and awareness about teething

myths; (4) studies evaluating knowledge and awareness about cleft lip and palate myths; (5) studies evaluating knowledge and awareness about pregnancy related dental myths; (6) studies evaluating oral practices i.e. oral mutilation and oral health practices. Studies published from January 1994 to January 2017 were considered in the search strategy.

The present review excluded the studies that are: (1) Not conducted in India; (2) review articles.

The initial search was accomplished using PUBMED and Google Scholar search engines on dental myths in India which yielded a result of 13,113 results, and only 24 relevant scientific questionnaire studies were retained. Full texts of all 24 studies were extracted electronically and manually.

Identification of relevant studies

The present systematic review was carried out both electronically and manually. The search strategy is depicted in Figure 1. This protocol and guidelines were used for the preparation of the review.[6] The relevant literature search was carried out through searches of the digitized literature on PubMed databases, Google scholar and manual search irrespective of the date of publication using Medical Subject Headings (MeSH) terms- "dental myths," and "India". 13,113 papers were identified with this method. Various key words utilized in the search strategy included- dental myths, knowledge, attitude, teething myths, pregnancy dental myths, cleft lip and palate myths, oral mutilations, India. Various combinations of key words were made using "and" and "or" as Boolean operators.

Selection Graphof studies

Initially, titles and abstracts of the studies retrieved by the search were assessed in order to exclude the inappropriate studies. Reviews were not included, though their reference lists were searched in turn for any studies not retrieved by the electronic search. For the remaining studies, full-text articles were recovered that met the inclusion criteria. Selected studies were screened using the STROBE checklist for observational studies.[7]

Collection and extraction of data

Prespecified data is extracted from each of the studies including the study design, sample size, the age group included, involved myths/traditional practices, and other study characteristics. Any kind of disagreement regarding data collection and extraction is sorted out by the other author.

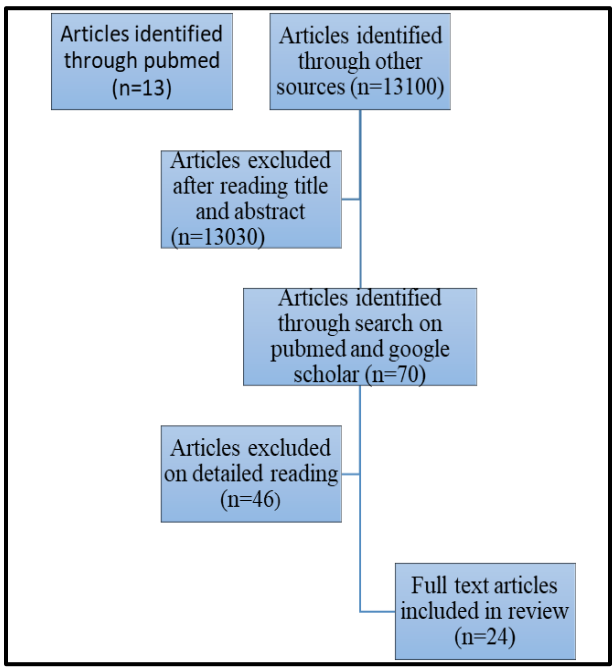

Figure 1. Flow diagram of Studies for Inclusion

RESULTS

Description of selected studies: The original search identified 13113 studies but only 24 studies (Table 1) are included for the present systematic review after performing the necessary exclusions. A total of 12 studies dealt with oral habits and myths related to dentistry, 4 studies assessed knowledge and awareness about teething myths, 3 studies assessed knowledge and awareness about myths associated cleft lip and palate, 3 studies reported incidences of oral mutilation and 2 studies assessed knowledge and awareness about dental myths associated with pregnancy (Figure 2). The study population in 16 studies are rural population and in 7 studies are urban population and only 1 out of 24 studies included both urban and rural population. Region wise (Figure 3) 9 studies (37.5%), 7 studies (29.16%), 6 studies (25%), 1 and 1 study (4.16% each) are conducted in South, North, West, East and Central India respectively.

DISCUSSION

The focus of the present systematic review was to assess

knowledge and awareness among the population on various dental myths and oral practices which were prevalent in various states of India. The assessment was done on basis of various questionnaires inquiring about prevalent oral practices and myths among the population in various states.

The review results displayed the significant variation among the different population groups in different parts in India. It also highlighted the inadequate knowledge and awareness status among the population. Studies by Gauri Kakatkar et al (2012)[15], Devesh Tewari et al (2014)[4] and Roshan Noor-Mohammed et al (2012)[16] highlighted the teething myths among the parents and observed that majority of parents has false beliefs about the signs and symptoms of teething which included fever, diarrhoea, runny nose, vomiting, and ear problems. Whereas in studies by Chakraborty et al (1994)[8] and Kiran K et al (2011)[14] the most common complication observed was the gingival irritation.

Kumar S et al (2016)[33] associated teething with habit to bite followed by fever, diarrhoea, increased salivation, loss of appetite and gum irritation in Saudi Arabian

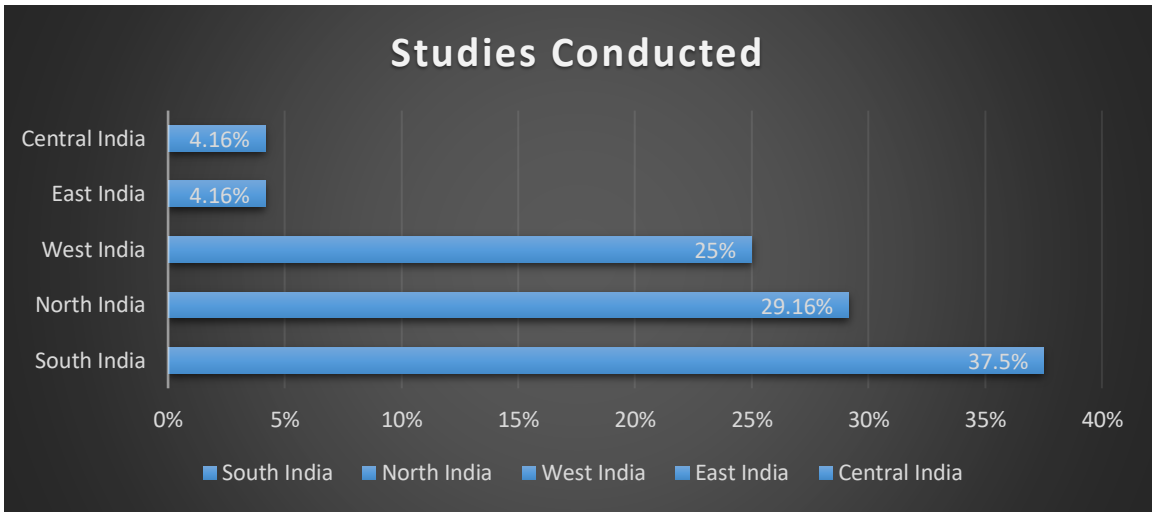

Figure 2. Region Wise Distribution of Studies Conducted in India

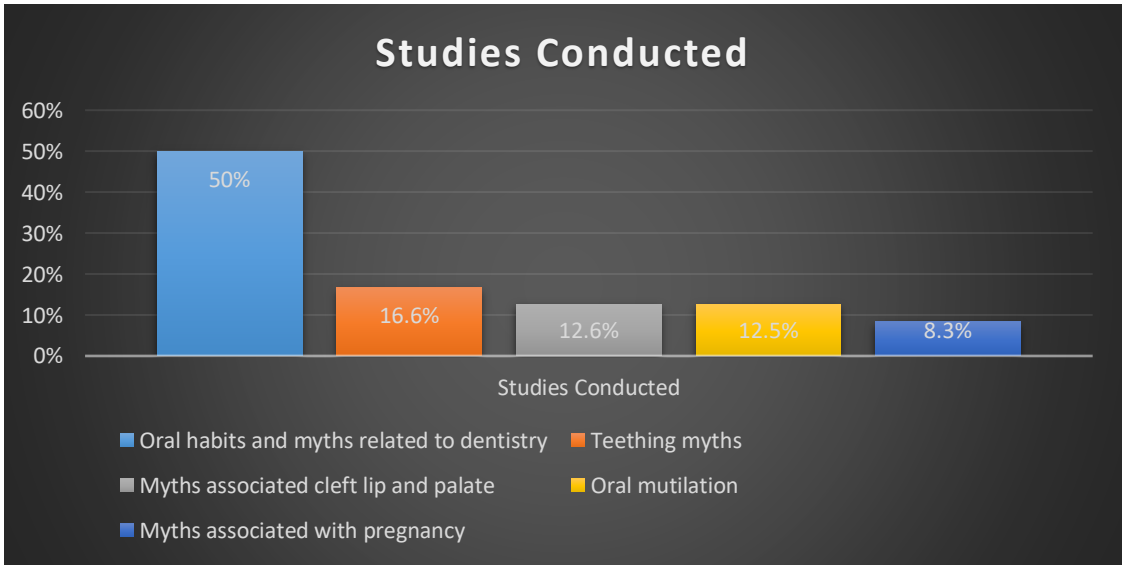

Figure 3. Distribution of Studies on Various Myths Prevalent

S. NO	STUDY	SOURCE	INVOLVED MYTH / TRADITIONAL PRACTICE	STUDY POPULATION	AGE OF POPULATION INVOLVED	TYPE OF STUDY	REGION	ZONE	POPULATION	FINDING
1.	Chakraborty et al. (1994)[8]	Pubmed indexed	Teething	201 parents	Infants aged between 6-12 months	Prospective study	Kolkata	East India	Urban	The most common complication observed was inflammation of the gums.
2.	Weatherley-White RC et al. (2005)[9]	Pubmed	Cleft lip and palate	Fifty-two families	-	A pilot study	Deesa	West	Rural	Majority of the population believed that CLP is due to the "act of fate".
3.	Kumar TS et al. (2009)[10]	Pubmed	Oral practices	1590 male	15-54 years	Cross sectional study	Rajasthan	West	Rural	The population was characterised by a lack of previous dental care.
4.	el-Shazly M et al. (2010)[11]	Pubmed	Cleft lip and palate	50 families	-	Cohort study	Gujarat	West	Rural	Majority of parents believed CLP was a curse or an act of evil spirits and similarly, retribution for past sins.
5.	Ganesh A. et al. (2011)[12]	Google scholar	Pregnancy	208 pregnant women	-	Cross sectional survey	Chennai	South	Urban	201 women felt that brushing their teeth was essential. 91 had the habit of mouth rinsing after every meal
6.	Hans MK et al. (2011)[13]	Pubmed	Oral mutilations	Female	-	Case report	Uttar Pradesh	North	Rural	Oral Mutilation practice is higher in women folk

S. NO	STUDY	SOURCE	INVOLVED MYTH / TRADITIONAL PRACTICE	STUDY POPULATION	AGE OF POPULATION INVOLVED	TYPE OF STUDY	REGION	ZONE	POPULATION	FINDING
7.	Kiran K et al. (2011)[14]	Pubmed indexed	Teething	Study group -894 infants and control group -550 infants	Infants between 6 months to 3 years of age	Cross sectional	Belgaum, Karnataka	South	Urban	The most common finding was gingival irritation.
8.	Gauri Kakatkar et al. (2012)[15]	Pubmed indexed	Teething	550 parents	Children aged 6 months to 3 years	Cross-sectional survey	Udaipur	West	Urban	Majority of parents had false beliefs about the signs and symptoms of teething - fever, diarrhoea, runny nose, vomiting, and ear problems.
9.	Roshan Noor-Mohammed et al. (2012)[16]	Pubmed indexed	Teething	Parents of 1100 children	Children age between four months to 36 months	Cross sectional survey	Davangere, Karnataka	South	Urban	Most frequent clinical manifestations were: Fever, drooling, diarrhoea, fever-drooling, fever-diarrhoea and drooling-diarrhoea.
10.	Saumyendra V Singh et al. (2010)[17]	Pubmed	Oral practices	681 people	50 years or above	Cross sectional study	Uttar Pradesh	North	Rural	Mouth rinsing and finger brushing were adopted by 61% of subjects as a method of oral hygiene followed by datum or twig chewing by 21%.
11.	Vignesh R et al. (2012)[18]	Google scholar	Oral practices	250 135 were males and 115 were females	30 -60 years	Cross-sectional study	Maduravoyal Chennai.	South	Rural	Majority of population believed in myths related to caries, oral hygiene and oral cancer. The difference for all the questions are statistically significant [P = 0.00]
12.	Vivek S et al. (2012)[19]	Google scholar	Oral beliefs	180 individuals 104 male and 76 female	40 – 49 years	Cross sectional study	Kerala	South	Rural	55% of subjects used finger for cleaning their teeth
13.	Naram A et al. (2013)[20]	Pubmed	Cleft lip and palate	23 families		Pilot Study	Hyderabad	South	Rural	Majority of mothers believed the cleft was caused by an eclipse.

S. NO	STUDY	SOURCE	INVOLVED MYTH / TRADITIONAL PRACTICE	STUDY POPULATION	AGE OF POPULATION INVOLVED	TYPE OF STUDY	REGION	ZONE	POPULATION	FINDING
14.	Bhatia A et al (2013)[21]	Google scholar	Oral practices	245 patients comprising of 125 males and 120 females	15years to above 60 years	Cross-sectional survey	Faridkot Punjab	North	Rural	Female participants were more fearful about the periodontal therapy
15.	Devesh Tewari et al. (2014)[4]	Google scholar	Oral practices	540 individuals	Above 15 years	Cross-Sectional Survey	Bareilly	North	Rural	Majority of the population had the opinion that home remedies are better for dental treatment. High percentage believed that keeping tobacco in a decayed tooth relieves its pain.
16.	Anup Nagaraj et al. (2014)[22]	Google scholar	Oral practices	600 females	18 – 60 years	Cross-sectional study	Rajasthan	West	Rural	Majority of the population believed that removal of the upper teeth affects vision and professional cleaning of teeth causes loosening of the teeth.
17.	Sumit Kochhar et al. (2014)[23]	Google Scholar	Oral practices	1664 subjects	18 years and above	Cross Sectional survey	Sunam, Punjab	North	Rural	Majority of population believed that there was no need to visit a dentist until all the permanent teeth of children erupt. More than half of the population believed that spacing between upper anterior teeth was an indication for good fortune.
18.	Sharma R et al. (2015)[24]	Google scholar	Oral practices	150 individual Male – 76 Female - 74	20-60 years	Cross-sectional study	Bangalore	South	Urban	Almost all the participant believed in one or more dental myth.
19.	Gupta R et al. (2016)[25]	Google scholar	Pregnancy	300 Pregnant women	18–26 years	Cross-Sectional Study.	Raichur District, India	South	Rural	Nearly one-third of women used finger and charcoal for cleaning teeth

S. NO	STUDY	SOURCE	INVOLVED MYTH / TRADITIONAL PRACTICE	STUDY POPULATION	AGE OF POPULATION INVOLVED	TYPE OF STUDY	REGION	ZONE	POPULATION	FINDING
20.	Poonam Pandya et al. (2016)[26]	Google scholar	Oral practices	150	18 years to 60 years above	Cross-Sectional Study.	Bhopal	Central	Urban	42% believe that removal of upper teeth affects vision. 38% people thought that keeping tobacco beside a painful tooth reduces tooth pain.
21.	Rai A et al. (2016)[27]	Google scholar	Oral practices	350 adults	20 years or above	Cross-Sectional Study	Ghaziabad	North	Urban and Rural	More percentage of males believed in the myths that extraction of upper teeth affects eyesight and that oral cancer is a God's punishment/ past sins
22.	Kiran GB et al. (2016)[38]	Google scholar	Oral practices	305	18 years and above	Cross-sectional questionnaire survey	Guntur district in Andhra Pradesh	South	Rural	Most prevalent myth was that deciduous teeth do not need any treatment procedures (n = 179). Followed by myth that cleaning with salt makes teeth white and shiny (n = 160).
23.	Yadav R et al. (2016)[28]	Pubmed	Oral mutilations	Two females	39-year-old and 51-year-old	Case report	Rajasthan, India.	West	Rural	Purpose of tattooing was to beautify their teeth and custom of getting gold tattoos on front teeth runs in their family.
24.	Sargam D. Kotecha et al. (2016)[29]	Google Scholar	Oral mutilations	11-year-old male child	11 year old	Case report	Uttar Pradesh	North	Rural	Purpose of tattooing was to beautify their teeth and could be used as an identification trait.

Table 1. Study Characteristics on Dental Myths Included in the Review

population.

Baykan Z et al. (2004)[34] reported symptom such as increase in biting, followed by irritability and fever to be associated teething in Turkish population.

Pacey L (2014)[40] highlighted a folklore prevalent in Europe about dabbing whisky on to a baby's gums to reduce the pain of teething.

A close look at folk-tales about deciduous teeth that exfoliates gives an idea about how myths vary around the globe. In modern Western culture, character named 'tooth fairy' is said to give children a small gift in exchange for a deciduous tooth when it exfoliates. In Europe, eons ago, children used to threw exfoliated teeth in mouse holes, hoping that permanent successor would be sharp. In northern Europe, tradition of a "tooth fee," paid by parents when a child lost his/her first tooth was prevalant.[35,36]

In Asian countries (India, China, Japan, Korea, and Vietnam), children bury their upper teeth in the ground, believing that the successor teeth would be straight.[35,37]

In Middle Eastern countries such as Iraq, Jordan, Palestine, Egypt, and Sudan, there is a tradition of throwing a deciduous tooth up into the sky toward the sun or to Allah.[35,37]

Weatherley-White RC et al. (2005)[9] and Naram A et al. (2013)[20] observed that majority of the population believe that the cleft is caused by exposure of pregnant woman to the eclipse. Another belief which is prominent is that cleft occurrence is sign of punishment due to a previous sinful act. Some families also believed that cleft is a sign of bad luck. As per el-Shazly M et al (2010)[11] another prevalent myth is that cleft lip and palate is caused by the mother looking at certain animals or consuming the wrong food during pregnancy.

Cheng LR (1990)[30] observed that in Chinese population, pregnant mothers avoid rabbit meat for fear of giving birth to a baby with a 'hare lip'. Also, they are restricted from using a scissor during pregnancy, especially when sitting on the bed as it might result in cleft in the baby.

In Africa, Dagher D et al. (2004)[31] highlighted the population belief that cleft lip and palate occurs pregnant women laughs at a patient with CLP and pregnant women going out during an eclipse. Olasoji HO et al (2007)[32] believed that cleft lip and palate is caused due to Thus, there appears to be a tendency to attribute the cause of CLP to a sense of vengeance from higher orders of astrological and spiritual origins.

Pacey L (2014)[40] highlighted the old wives' tale prevalent in Europe, related to pregnancy and tooth lose. 'Gain a child, lose a tooth' represented the thought that women lose a tooth for every child they bear may be valid as during pregnancy gingivitis and periodontitis can occur, which if severe and left untreated, it can lead to periodontal bone loss and subsequent tooth loss.

Saumyendra V Singh et al. (2010)[17] and Vivek S et al. (2012)[19] highlighted the prevalent practice of finger brushing in the majority of the rural population followed by datum or twig chewing Gupta R et al (2016)[25] observed a similar method of brushing in rural pregnant women. Ganesh A et al (2011)[12] reported that majority of women didn't have habit of mouth rinsing after every meal. Study by Bhatia A et al (2013)[21] highlighted that female were more fearful about the periodontal therapy.

Studies by Poonam Pandya et al. (2016)[26], Sumit Kochhar et al. (2014)[23] and R Vignesh et al. (2012)[18] observed that majority of the population believe that there is no need to visit a dentist until all the permanent teeth of children erupt. Also, more than half of the population believe that spacing between upper anterior teeth is an indicator for good fortune. All these studies highlighted the belief in Indian population that as deciduous teeth are going to shed, so treating them is wastage of money and time.

R Vignesh et al. (2012)[18] observed that majority of population believed that using hard bristles for brushing (70%) and brushing with salt (56.8%), whitens the teeth. Anup Nagaraj et al. (2014)[22], Sumit Kocchar et al (2014)[23] and Saumyendra V Singh et al (2010)[17] highlighted the myth about the removal of the upper teeth and its effect on vision. Devesh Tewari et al. (2014)[4] showed that majority of the population has the opinion that home remedies are better for dental treatment and high percentage believe that keeping tobacco in a decayed tooth relieves its pain.

Pacey L (2014)[40] reported prevalence of folk-lore in

Germany during middle age that kissing a donkey takes away the toothache.

Kiran GB et al. (2016)[38] reported that myths such as drinking alcohol reduces tooth pain, use of twigs instead of toothbrushes is more effective, burying exfoliated teeth in cow dung for good permanent successor and use of tobacco or tobacco products as a remedy for tooth pain were significantly significant (p-value > 0.05) in those who had never visited a dentist.

According to survey conducted by FDI World Dental Federation (2017)39 majority of countries such as Brazil (77%), South Africa(75%), Mexico (73%), India (67%) and Canada (67%), incorrectly believed that it is important to rinse the mouth out with water after brushing. However, it is actually recommended not to rinse with water straight after brushing in order to allow maximum exposure to fluoride, which will optimize the preventive effects.

CONCLUSION

The results of the present review showed that the knowledge and awareness level of the subjects was inadequate and myths related to dentistry were more prevalent in rural regions of India. However, more studies are required to accumulate valuable data related to the oral practices and myths in the country. Also, decoding of the myths is required by the dentist in order to provide successful dental treatment and in order to prevent many dental problems.

REFERENCES

1. Belief. Available from: www.en.wikipedia.org/wiki/Belief. [Last accessed on August 28th 2018]
2. Bhasin V. Oral health behavior among Bhils of Rajasthan. J Soc Sci 2004; 8(1):1-5.
3. Petersen PE, Kwan S. Equity, social determinants and public health programs—the case of oral health. Community Dent Oral Epidemiol 2011; 39(6):481-7.
4. Tewari D, Nagesh L, Kumar M. Myths Related To Dentistry In The Rural Population of Bareilly District: A Cross-Sectional Survey. Journal of Dental Sciences and Oral Rehabilitation 2014; 5(2):58-64.
5. Khan SA, Dawani N, Bilal S. Perceptions and myths regarding oral healthcare amongst strata of low socioeconomic community in Karachi, Pakistan. J Pak Med Assoc 2012;62(11):1198-203.
6. Wright K, McDaid C. Reporting of article retractions in bibliographic databases and online journals. J Med Libr Assoc 2011;99:164-7.
7. STROBE Statement. Strengthening the Reporting of Observational Studies in Epidemiology Switzerland; 2007. Available from: https://www.strobe-statement.org/index. php?id=available-checklists.
8. Chakraborty A, Sarkar S, Dutta BB. Localised Disturbances Associated With Primary Teeth Eruption. J Indian Soc Pedod Prev Dent. 1994;12(1):25-8.
9. Weatherley-White RC, Eiserman W, Beddoe M, Vanderberg R. Perceptions, Expectations, and Reactions to Cleft Lip and Palate Surgery in Native Populations: A Pilot Study in Rural India. The Cleft Palate-Craniofacial Journal 2005; 42(5):560-4.
10. Kumar TS, Dagli RJ, Mathur A, Jain M, Balasubramanyam G et al. Oral health status and practices of dentate Bhil adult tribes of southern Rajasthan, India. Int Dent J. 2009;59(3):133-40.
11. el-Shazly M, Bakry R, Tohamy A, Ali WM, Elbakry S, Brown SE, Weatherley-White RC. Attitudes toward children with clefts in rural Muslim and Hindu societies. Ann Plast Surg. 2010;64(6):780-3.
12. Ganesh A, Ingle NA, Chaly PE, Reddy VC. A survey on dental knowledge and gingival health of pregnant women attending government maternity hospital, Chennai. J Oral Health Comm Dent. 2011;5:24–30.
13. Hans MK, Nagpal A, Shetty S. Choumps. Br Dent J. 2011;11(5):194.
14. Kiran K, Swati T, Kamala BK, Jaiswal D. Prevalence Of Systemic And Local Disturbances in Infants During Primary Teeth Eruption: A Clinical Study. Eur J Paediatr Dent. 2011;12(4):249-52.
15. Kakatkar G, Nagarajappa R, Bhat N, Prasad V, Sharda A, et al. Parental Beliefs About Children's Teething In Udaipur, India: A Preliminary Study. Braz Oral Res. 2012;26(2):151-7.
16. Noor-Mohammed R, Basha S. Teething Disturbances; Prevalence of Objective Manifestations in Children under Age 4 Months to 36 Months. Med Oral Patol Oral Cir Bucal. 2012; 17(3): E491–E494.
17. Singh SV, Akbar Z, Tripathi A, Chandra S, Tripathi A. Dental Myths, Oral Hygiene Methods And Nicotine Habits in An Ageing Rural Population: An Indian Study. Indian J Dent Res 2013;24:242-4.
18. Vignesh R, Priyadarshni I. Assessment of the prevalence of myths regarding oral health among general population in Maduravoyal, Chennai. J Educ Ethics Dent 2012;2:85-91.
19. Vivek S, Jain J, Simon SP, Battur H, Tikare S. Understanding Oral Health Beliefs and Behaviour among Paniyan Tribals in Kerala, India. JIOH 2012; 4(2):23-28.
20. Naram A, Makhijani SN, Naram D, Reddy SG, Reddy RR, Lalikos JF, Chao JD. Perceptions of family members

of children with cleft lip and palate in Hyderabad, India, and its rural outskirts regarding craniofacial anomalies: a pilot study. Cleft Palate Craniofac J. 2013;50(3):e41-6.
21. Bhatia A, Bains SK, Singh MP. To assess knowledge and awareness of North Indian population towards periodontal therapy and oral-systemic disease link: A cross-sectional survey. J Interdiscip Dentistry 2013; 3:79-85.
22. Nagaraj A, Ganta S, Yousuf A, Pareek S. Enculturation, Myths and Misconceptions Regarding Oral Health Care Practices among Rural Female Folk of Rajasthan. Ethno-Medicine 2014;8(2):157-64·
23. Kochhar S, Singh K, Anandani C, Pani P, Kaur Bhullar RP, et al. (2014) Occurrence of Oral Health Beliefs and Misconceptions Among Indian Population. J Dent Health Oral Disord Ther 1(5):00031.
24. Sharma R, Mallaiah P, Margabandhu S, Umashankar GK, Verma S. Dental Myth, Fallacies and Misconceptions and its Association with Socio Dental Impact Locus of Control Scale. Int J Prevent Public Health Sci 2015; 1(2):14-20.
25. Gupta R, Acharya AK. Oral Health Status and Treatment Needs among Pregnant Women of Raichur District, India: A Population Based Cross-Sectional Study. Scientifica (Cairo). 2016; 2016:9860387. doi: 10.1155/2016/9.86038726.
26. Pandya P, Bhambal A, Bhambani E, Bansal V, Kothari S et al. Dental Care: Social Myths and Taboos. PJSR 2016:9(2):42-6.
27. Rai A, Menon I, Aruna DS, Singh A. Association between taboos in dentistry and oral health behavior among adult population of Ghaziabad. J Dent Specialities 2016;4(1):14-20.
28. Yadav R, Yadav A, Rai R, Pahuja M, Solanki S. Gold Tooth Tattoos: Identifying Features in Forensic Odontology. J Clin Diagn Res. 2016; 10(7): ZJ08–ZJ09.
29. Sargam D, Kotecha, Y. Deepa Hedge, Chaudhry K, Yeluri R, Masih U. Gold Enamel Choumps – A Case report. Egyptian Journal of Forensic Sciences 2016;6(3):303-6.
30. Cheng LR. Asian-American cultural perspectives on birth defects: focus on cleft palate. The Cleft palate journal 1990; 27:294-300.
31. Dagher D, Ross E. Approaches of South African traditional healers regarding the treatment of cleft lip and palate. The Cleft palate-craniofacial journal 2004;41:461-9.
32. Olasoji HO, Ugboko VI, Arotiba GT. Cultural and religious components in Nigerian parents' perceptions of the aetiology of cleft lip and palate: implications for treatment and rehabilitation. The British journal of oral & maxillofacial surgery, 2007;45:302-5.
33. Kumar S, Tadakamadla J, Idris A, Busaily IA, AlIbrahim AY. Knowledge of Teething and Prevalence of Teething Myths in Mothers of Saudi Arabia. J Clin Pediatr Dent. 2016 Winter; 40(1):44-8.
34. Baykan Z, Sahin F, Bayazova U, Ozçakar B, Baykan A. Experience of Turkish parents about their infants' teething. Child Care Health Dev. 2004;30:331–6.
35. Tooth fairy. Available from: http://en.wikipedia.org/wiki/Tooth_fairy. [Last accessed on 2018 Dec 19].
36. Helen H, Cullen J. The tooth fairy comes, or is it just your mum and dad?: A child's construction of knowledge. Aust J Early Child 2003;28:19-24.
37. 8 Popular Tooth Myths Debunked. Available from: /science/health/g1249/8-popular-tooth-myths-debunked/?slide=8 [Last accessed on 2018 Dec 19].
38. Kiran GB, Pachava S, Sanikommu S, Simha BV, Srinivas R, Rao VN. Evaluation of dent-o-myths among adult population living in a rural region of Andhra Pradesh, India: A cross-sectional study. J NTR Univ Health Sci 2016;5:130-6.
39. Truth or Myth? Global Survey for World Oral Health Day Exposes the Truth About our Oral Health Habits. Available from: https://www.fdiworlddental.org/pt/node/4250. [Last accessed on 2018 Dec 19]
40. Pacey L. Myth-busting: donkey dentistry and other stories. Br Dent J. 2014;216(11):608-9.

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ORIGINAL RESEARCH

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Understanding Epilepsy among Parents Through an Educative Blog: A Novel Method

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ABSTRACT

INTRODUCTION: Epilepsy is a neurological disorder characterized by the risk of recurrent seizures. Individuals are still socially discriminated due to misunderstandings by widespread negative attitudes and defensive behavior.
AIM: To assess the knowledge among parents regarding epilepsy and to eradicate the myths associated with using a blog.
MATERIALS AND METHOD: A blog was created with elaborate information regarding Epilepsy.50 parents of children with history of Epilepsy were included for the study. The parents of the children were given the link to the blog and were asked to go through it and express their views and responses. Later the parents were educated and doubts/queries were clarified.
RESULTS: About 40 parents were willing to go through the blog. The other 10 though reluctant went through the blog after making them realize the need to have knowledge about epilepsy. Among 50 parents, around 30 parents refused to believe that it was a form of epilepsy/fits and discontinued the medication without Physician's consent. Around 45 parents believed that giving metal objects helped in treating seizures. Also 40 parents believed strongly that Febrile seizures was not a form of seizures and did not require treatment. 20 parents had discontinued the medication on their own after a few months.
CONCLUSION: In our study we found lack of knowledge regarding Epilepsy and the different variants of epilepsy. Also, parents strongly believed in the myths and hence did not consult a doctor. Most parents assumed Epilepsy to be a neurologic disorder and that it required psychiatric help. This study made an attempt to educate people regarding epilepsy in detail by the means of an educative blog.

KEYWORDS: Epilepsy, Social Discrimination, Seizures, Blog

INTRODUCTION

Epilepsy is a neurological disorder characterized by the risk of recurrent seizures. Epileptic seizures may vary from brief and undetectable seizures to long periods of vigorous shaking. In a developed country, around 4-5/1000 persons have epilepsy. The risk of epilepsy increases with increase in age. In developing countries, this rate can be as high as 43 per 1,000 people.[1-5]

According to the International League Against Epilepsy, epilepsy is diagnosed when a person has 2 or more unprovoked seizures. A seizure is classified as "partial" when the electrical discharge causing it occurs in a specific area of the brain or "generalized" when the discharge affects the entire brain cortex. When there is loss of awareness, seizures are termed complex. The classification of epilepsy is similar. Epilepsy can be partial or generalized. Based on the cause, it can be symptomatic (caused by a developmental malformation), idiopathic (when a genetic condition is responsible) or cryptogenic/idiopathic (when the cause is unknown).[6]

Social acceptance of people with epilepsy largely depends on the ideas of people in the society and is often a considerable problem for the patients and their families. Individuals are still socially discriminated due to misunderstandings by widespread negative attitudes and defensive behavior. This can affect people economically, socially, and culturally. In India and China, epilepsy is used as a justification to deny marriage.[2] People in some region believe that epilepsy is a demonic possession. People in Tanzania and few parts of Africa think epilepsy is associated with evil spirit, witchcraft, or poisoning, and it is believed to be contagious, for which there is no evidence. In the United Kingdom, before the 1970s, there were laws that prevented epileptic patients from getting married. It also brings about a feeling of shame among the patients that most of them deny to accept they have a seizure.[7-13]

Negative attitude towards patients with epilepsy by the family, friends, relatives, school mates and also teachers affects the morale of the patient and the parents to a large extent. Literature search showed many questionnaire studies published regarding epilepsy but there was paucity of studies which imparted knowledge to people regarding epilepsy. The different myths associated and the perceptions of different people towards epilepsy by using technological aids. Hence this study aimed to educate people regarding epilepsy in detail by the means of an educative blog.

MATERIALS AND METHOD

A blog was created with elaborate information comprising the definition of Epilepsy, types, common myths associated, signs and symptoms, perceptions of family, relatives, batchmates and school teachers regarding epilepsy and the investigations. This is the link to the blog- *https://kaviekg.blogspot.com/2019/06/epilepsy.html?m=1.* The patients with history of Epilepsy visiting the Department of Special Health Care needs, SDM Dental college, a constituent unit of Shri Dharmasthala Manjunatheswara University, Dharwad were included for the study.

In the first visit the parents were given the link and were asked to go through the blog and give their comments below. The parents were also told to clarify any queries they had in this regard. Total of 50 children with history of Epilepsy were taken as study subjects.

A total of 50 children with history of Epilepsy were included in the study. Among these it was seen that 30 children had history of febrile seizures who continued medication with anti-epileptic medication thereafter. The other 20 children gave history of Tonic Clonic seizures and Static seizures. Only 20 children were on medication and visited the physician frequently.

RESULTS

About 40 parents were willing to go through the blog. The other 10 though reluctant went through the blog after making them realize the need to have knowledge about epilepsy. Among 50 parents, around 30 parents refused to believe that it was a form of epilepsy/fits and discontinued the medication without Physician's consent. 10 parents had basic knowledge, they were aware of the attack and the need for medication but they believed in the myths.10 patients had thorough knowledge about epilepsy and visited the physician regularly (Table 1)

Around 45 parents believed that giving metal objects helped in treating seizures. Also 40 parents believed strongly that Febrile seizures was not a form of seizures and did not require treatment. 20 parents had discontinued the medication on their own after a few months.35 parents gave history of epilepsy without frothing but only jerky hand movements and eyes staring into space. 35 parents did not consult a physician and 15 parents consulted a physician. 40 parents agreed that it was a mental illness and 10 parents did not agree. 40 parents believed that it was a mental illness and 10 parents did not believe so (Figure 1).

35 parents believed seizures could be cured by priest whereas 15 did not believe so. 30 children felt that they were isolated in school whereas 20 did not feel so. 40 parents believed it was a taboo in society and they were considered as bad omen whereas 10 did not consider. Only 15 parents had got the investigation like EEG done for seizures whereas 35 patients had not undergone investigations. 40 parents said they benefitted from the blog because they had no information regarding epilepsy in depth.[10] parents were not very keen on listening as few already had information and few were very rigid and stuck on to those myths (Figure 2).

DISCUSSION

Epilepsy has been long recognized as a stigma in society and a lot of misconceptions are present among the common public regarding Epilepsy. Since many years people believe in these myths and so deep rooted it is a herculean task to uproot these beliefs from the minds of the public.

There are myths which are believed to be true and are the major cause for the social stigma regarding Epilepsy. Some cultures believe that epilepsy represents demonic possession. Although epilepsy arises from a transient dysfunction in the brain, fear and ignorance still lead to discrimination and feelings of shame. In the laws of some countries, epilepsy is strongly associated with mental illness and cognitive disabilities-unfortunate generalizations that unfairly affect many people with epilepsy. Such pervasive social stereotyping is difficult to overcome.[6]

In our study we found lack of knowledge regarding Epilepsy and the different variants of epilepsy. Also, people strongly believed in the myths and hence did not consult a doctor.

Most parents assumed Epilepsy to be a neurologic disorder and that it required psychiatric help. It was also noticed that the parents strongly believed that it could be cured by a priest or Shaman (person possessing divine power) and hence consulting a doctor was unnecessary. Parents also agreed that relatives and other schoolmates including the teachers treated the children differently as compared to other children. Another common finding was that parents discontinued the medication soon after the symptoms were reduced.

S NO.	QUESTION	YES	NO
1	Epilepsy is a mental illness	40	10
2	History of epilepsy without frothing	35	15
3	Febrile seizures is not a form of seizures	40	10
4	Parents consulted a physician	15	35
5	Giving metal objects helped in treating seizures	45	5
6	Seizures can be cured by priest	35	15
7	Discontinued the medication on their own	20	30
8	Parents hesitant to reveal condition	20	30
9	Taboo in society and bad omen	40	10
10	Parents of children with epilepsy were not invited to family events	20	30
11	Relatives spoke ill about these children and their parents	25	25
12	Other parents did not let their children mingle with these children	30	20
13	School teachers looked down upon them	10	40
14	Children felt that they were isolated in school	30	20
15	Investigations like EEG	15	35
16	Benefitted from the blog	40	10

Table 1. List of Questions Asked to Parents

Parents of patients with Febrile epilepsy believed that it was not a form of epilepsy and just a manifestation of high fever. Parents who gave history of one attack described symptoms of jerky movements of hands and legs, eyes staring into space which was occasionally accompanied by frothing. After reading the blog, the parents revealed that it was ignorance which made that them believe in the myths and also the fear and they were educated in depth regarding Epilepsy.

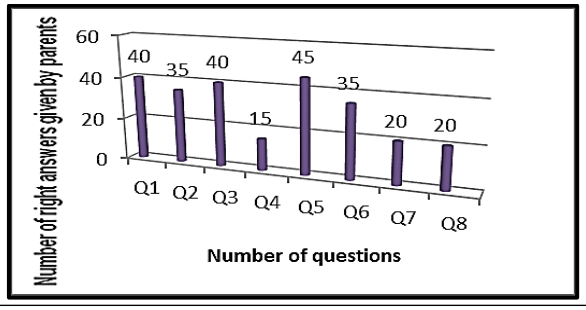

Figure 1. Graphical Representation of the Appropriate Responses Provided by Parents for the Blog Questionnaire (Q1-Q8)

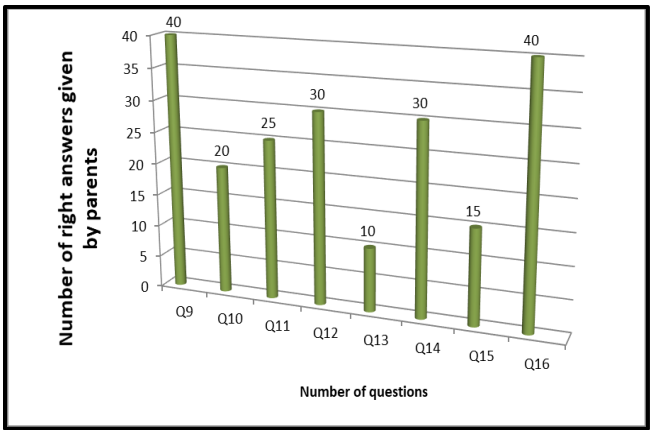

Figure 2. Graphical Representation of the Appropriate Responses Provided by Parents for the Blog Questionnaire (Q9-Q16)

CONCLUSION

The social stigma surrounding Epilepsy cannot be eradicated overnight but by small efforts we sure can bring about a change in the mindset of the people regarding Epilepsy. As it is the era of social media, we can use it as a means of educating the people and trying to remove all these superstitious beliefs from the minds of people to let the child live to its best. This is the first of its kind study wherein a blog was formulated to educate people regarding epilepsy.

REFERENCES

1. Fisher RS, Acevedo C, Arzimanoglou A, Bogacz A, Cross JH, Elger CE, et al. ILAE official report: A practical clinical definition of epilepsy. Epilepsia 2014;55:475-82.
2. Chaudhari VK, Kumar P, Yadav V, Pathak D, Hussain Z. A brief overview of epilepsy. Glob J Med Res A: Neurol Nerv Syst. 2016;16(1-A):1-6.
3. Scott RA, Lhatoo SD, Sander JW. The treatment of epilepsy in developing countries: Where do we go from here? Bull World Health Organ 2001;79:344-51.
4. Brodie MJ, Elder AT, Kwan P. Epilepsy in later life. Lancet Neurol. 2009;8:1019-30.
5. Aragon CE, Burneo JG.Understanding the Patient with Epilepsy and Seizures in the Dental Practice JCDA. February 2007;43(1):71-6.
6. Aragon CE, Hess T, Burneo JG, Knowledge and Attitudes about Epilepsy: A Survey of Dentists in London, Ontario JCDA .July/August 2009;75(6):450-450g.
7. de Boer HM. Epilepsy stigma: Moving from a global problem to global solutions. Seizure 2010;19:630-6.
8. Burneo JG. Sonko-nanay and epilepsy among the Incas. Epilepsy Behav 2003;4:181-4.
9. Jilek-Aall L. Morbus sacer in Africa: Some religious aspects of epilepsy in traditional cultures. Epilepsia 1999;40:382-6.
10. Newton CR, Garcia HH. Epilepsy in poor regions of the world. Lancet 2012;380:1193-201.
11. Baker GA, Brooks J, Buck D, Jacoby A. The stigma of epilepsy: A European perspective. Epilepsia 2000;41:98-104.
12. Paschal AM, Ablah E, Wetta-Hall R, Molgaard CA, Liow K. Stigma and safe havens: A medical sociological perspective on African-American female epilepsy patients. Epilepsy Behav 2005;7:106-15.
13. Jacoby A, Snape D, Baker GA. Epilepsy and social identity: The stigma of a chronic neurological disorder. Lancet Neurol 2005;4:171-8.

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ORIGINAL RESEARCH

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The Effect of Nano Bio Fusion Gel as an Adjunct to Conventional Therapy in Gingivitis Patients

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ABSTRACT

INTRODUCTION: Gingival and periodontal diseases are still the most common prevalent oral diseases affecting a community/individual people and can lead to irreversible consequences, both local (bone loss, tooth mobility etc.) and systemic (Cardiac Disease etc.)
AIM: To compare the efficacy of NBF gingival gel alone and as an adjunct to conventional therapy in patients with gingivitis
MATERIALS AND METHOD: This randomized study design (parallel arm study design) consisted of 7 patients with 21 quadrants and having a score 2 (moderate gingivitis) & 3 (severe gingivitis) based upon the gingival score given by Loe & Silness (1964). All the subjects were evaluated by two parameters i.e. gingival index [Loe & Silness (1964)] and Papillary Bleeding Index [Muhleman (1977)] at baseline and after one month of rendering treatment. Following random allocation (flip of coin), the first Group was given conventional therapy [Scaling and Root Planing(SRP)] followed by NBF gingival gel application, while the 2nd Group was given NBF gel application alone and the 3rd Group was given conventional therapy (SRP) alone. Statistical analysis was done using SPSS version 19.0 using paired t-test as well as the Wilcoxon Signed Rank test.
RESULTS: After follow up, the highest percentage of mean scores of gingival index decreased among all the groups was seen in group 1 (38.15±5.46), followed by group 3(32.54±7.58) and group 2(18.91±7.62). Similarly, in the Papillary Bleeding Index, the highest percentage reduction was seen in group 1 (82.30±2.39), followed by group 3(53.54±6.02) and group 2(31.71±4.34). All observed values were significant with p≤05.
CONCLUSION: NBF gel seems to provide to boost the immunity of the gingiva and periodontium, and when used as an adjunct to conventional therapy (SRP) can benefit the patient immensely.

KEYWORDS: Gingivitis, Gingival Index, Root Planing, Dental Scaling

INTRODUCTION

The term "healthy gingiva" describes optimal gingival health attained by patients who follow meticulous oral hygiene practices.[1] As per the global review of oral health (WHO), dentistry has achieved significant achievements to improve the oral health status of people, yet a variety of oral problems are still plaguing various communities, especially among underprivileged groups across both developing and developed countries. Dental diseases comprising of, but not limited to dental caries, periodontal disease, tooth loss and oral mucosal lesions constitute of major public health problems across the globe.[2]

There are two common diseases affecting the periodontium namely: 1). Gingivitis and 2). Periodontitis. These diseases commonly occour as a result of imbalance in the microbial flora of the host and can lead to redness, swelling and bleeding on probing from gingiva.

The first disease, i.e. gingivitis, is defined as inflammation of the gingiva in which the connective tissue attachment to the tooth remains at its original level. The disease is limited to the soft-tissue compartment of the gingival epithelium and connective tissue.[3] In the second disease, i.e., periodontitis, is an inflammation of the supporting tissues of the teeth with progressive attachment loss and bone destruction.[4]

A variety of chemical agents ranging from Nonsteroidal Anti-Inflammatory Drugs (NSAIDS), antimicrobial agents, chlorhexidine to cetylpyridinium chloride have gained popularity for the treatment of gingival diseases, but their frequent prescription has led to as drug resistance and/or drug allergy in patients. Thus, there has been an increased emphasis on the usage of herbal agents such as propolis, Aloe vera, green tea extracts, neem, and curcumin for gingival/periodontal diseases in patients.[5]

In the same context, a Nano-Bio Fusion (NBF) Gingival Gel is a patented scientifically formulated, bio-adhesive antioxidant gel containing Vitamin C, Vitamin E and Propolis which are naturally occurring antioxidants for targeted action and disease causing microbes in periodontal disease. However, there is very little or scarce data regarding its efficacy in the scientific literature and hence, this study was undertaken with the aim to compare the efficacy of NBF gingival gel alone and as an adjunct to conventional therapy in

patients with gingivitis

MATERIALS AND METHODS

This randomized clinical trial (parallel arm study design) was carried out in the Department of Periodontics, School of Dental Sciences, Sharda University after obtaining an ethical clearance. This preliminary study recruited seven patients comprising 21 quadrants (three quadrants each). An informed consent was taken from all the patients before the start of the study.

The inclusion criteria were systemically healthy participants visiting the department within the age group of 22–55 years, with a minimum of twenty teeth present and classified as score 2 (moderate gingivitis) & 3 (severe gingivitis) based upon the gingival score given by Loe & Silness 1964.[6] The exclusion criteria included systematically compromised patients, on medications, Grade II and grade III mobile teeth, pregnant and lactating women, subjects who underwent periodontal treatment within a period of one year, smokers and alcoholic subjects.

CLINICAL PARAMETERS

All the subjects were evaluated by two parameters i.e. Gingival Index [Loe & Silness (1964)][6] and Papillary Bleeding Index [Muhleman (1977)][7] at baseline and after one month of rendering treatment.

Following the initial examination, quadrants were divided randomly into three groups (21 quadrants) based on the flip of a coin.

The first Group was given conventional therapy [Scaling and Root Planing(SRP)] followed by NBF gingival gel application, while the 2nd Group was given NBF gel application alone and the 3rd Group was given conventional therapy (SRP) alone.

NBF gingival gel application was done by isolating particular quadrant with cotton rolls. Then the gel was applied on the gingiva through a blunt cannula. Patient was asked not to rinse for the next 30 minutes followed by proper oral hygiene measures. The data was recorded in a pre-validated proforma by a recording clerk who, along with the examiners was standardized prior to the study.

Statistical analysis was done using SPSS version 19.0 through a blinded, certified statistician who did the comparison of test and control sites using paired t-test as well as the Wilcoxon Signed Rank test. A p value of < 0.05 was considered statistically significant.

RESULTS

Of the seven patients enrolled in the study, there were three males and four females. The intra-group comparison of Gingival Index Scores Pre & Post-Operatively (after one month follow up) is shown in table 1. It was seen that while the mean scores of gingival index decreased among all the groups, the highest percentage reduction was seen in group 1 (38.15±5.46), followed by group 3(32.54±7.58) and group 2(18.91±7.62).

The intra-group comparison of Papillary Bleeding Index Scores both pre & post-operatively (after one month follow up) is shown in table 2. Similar to the above results, it was observed that while the mean scores PBI decreased among all the groups, the highest percentage reduction was seen in group 1 (82.30±2.39), followed by group 3(53.54±6.02) and group 2(31.71±4.34).

All observed values were significant and it can be documented that the use of NBF gel along with conventional therapy can cause a higher improvement in gingival scores of the patient.

DISCUSSION

The present study which aimed to compare the efficacy of NBF gingival gel alone and as an adjunct to conventional therapy in patients with gingivitis strongly recommends the use of NBF gel as an adjunct to conventional therapy in patients suffering from gingival and periodontal disease.

NBF gel acts like a local delivery agent which when placed in the gingiva reduces the microbial load naturally leading to an improvement in the observed clinical signs of gingivitis.

The results of the present study is in agreement to Chatterjee et al. (2014)[1] and in partial agreement to Debnath K et al. (2016)[9] who documented that locally delivered NBF gel exhibited a significant improvement compared with SRP alone in patients with chronic periodontitis. Since gingivitis can progress to periodontitis if left unchecked/untreated, NBF gel seems to play an important role in reducing the microbial load in both gingival and periodontal disease.

Propolis, a constituent in NBF gel, has been evaluated by Koo et al. (2002)[10] as a mouth rinse formulation and

GROUP	PRE-OPERATIVE		POST-OPERATIVE		PERCENT REDUCTION FROM BASELINE TO POST OP		PA VALUE
	MEAN	SD	MEAN	SD	MEAN	SD	
Group 1 (CONVENTIONAL THERAPY & NBF GEL)	1.61	0.10	0.99	0.05	38.15	5.46	0.018, S
Group 2 (NBF GEL ONLY)	1.60	0.10	1.30	0.13	18.91	7.62	0.018, S
Group 3 (CONVENTIONAL THERAPY ONLY)	1.49	0.08	1.00	0.12	32.54	7.58	0.017, S

Table 1. Intra-Group Comparison of Gingival Index among the Study Subjects. [S: Significant (p=<0.05)]

GROUP	PRE-OPERATIVE		POST-OPERATIVE		PERCENT REDUCTION FROM BASELINE TO POST OP		PA VALUE
	MEAN	SD	MEAN	SD	MEAN	SD	
Group 1 (CONVENTIONAL THERAPY & NBF GEL)	2.59	0.21	0.46	0.56	82.30	2.39	0.018, S
Group 2 (NBF GEL ONLY)	2.65	0.17	1.81	0.18	31.74	4.34	0.018, S
Group 3 (CONVENTIONAL THERAPY ONLY)	2.71	0.19	1.25	0.09	53.54	6.02	0.018, S

Table 2. Intra-Group Comparison of Papillary Bleeding Index among the Study Subjects. [S: Significant (p=<0.05)]

a significant reduction in PI was obtained at the 4th day of the study. Propolis used as a subgingival irrigant (Coutinho, 2012)[11] at a 6 weeks interval period which showed a significant improvement in clinical and microbiological parameters. Apart from propolis, the other constituents of NBF gel i.e. Vitamin C and E have also been documented to protect the periodontal tissue from oxidative damage and can contribute to health of the periodontium including collagen synthesis, and boost immune function.

The present study is prone to limitations. Firstly, due to the small sample size, it is difficult to generalize the results and secondly, a gender-wise comparison could not be done. However, since this randomized trial was designed to provide insights regarding the efficacy and feasibility of using NBF gel and the promising results encourage researchers to undertake further studies to further add to the evidence of the efficacy and feasibility of using the NPF gel as an adjunct to conventional treatment for gingival and periodontal diseases.

CONCLUSIONS

NBF gel seems to provide to boost the immunity of the gingiva and periodontium, and when used as an adjunct to conventional therapy (SRP) can benefit the patient immensely. Natural remedies can help reduce the growing menace of drug resistance and provide no side-

effects whatsoever. Its recommended use in the clinical settings can be advised based on scientific evidence provided by the present study as well as future studies.

REFERENCES

1. Chatterjee A, Sneha V. Evaluate the efficacy of NBF gel as an adjunct to Scaling in gingivitis – a clinical study. Guident 2014:7:86-8.
2. Beck J, Arbes SJ, Jr. Epidemiology of gingival and periodontal diseases. In: Newman MG, Takei HH, Klokkevold PR, editors. Carranza's clinical periodontology. St Louis: Saunders/Elsevier; 2006. pp. 110–32.
3. Flemmig TF. Periodontitis. Ann Periodontol. 1999; 4:32–8.
4. Cekici A, Kantarci A, Hasturk H, Van Dyke TE. Inflammatory and immune pathways in the pathogenesis of periodontal disease. Periodontol 2000;64(1): 57–80. doi:10.1111/prd.12002.
5. Salvi GE, Lang NP. The effects of non-steroidal anti-inflammatory drugs (selective and non-selective) on the treatment of periodontal diseases. Curr Pharm Des. 2005;11(14):1757-69.
6. Loe H, Silness J. Periodontal disease in pregnancy. I. Prevalence and severity. Acta Odontol Scand. 1963;21:533–51.
7. Mühlemann HR. Psychological and chemical mediators of gingival health. J Prev Dent. 1977;4:6–17.
8. SPSS Inc. Released 2009. PASW Statistics for Windows, Version 18.0. Chicago: SPSS Inc.
9. Debnath K, Chatterjee C, Priya VS. Evaluation of Nano-Bio Fusion gel as an adjunct to scaling and root planing in chronic periodontitis: A clinico-microbiological study. J Indian Soc Periodontol. 2016;20(5):543–8. doi: 10.4103/0972-124X.201696
10. Koo H, Cury JA, Rosalen PL, Ambrosano GM, Ikegaki M, Park YK. Effect of a mouthrinse containing selected propolis on 3-day dental plaque accumulation and polysaccharide formation. Caries Res. 2002;36:445–8.
11. Coutinho A. Honeybee propolis extract in periodontal treatment: A clinical and microbiological study of propolis in periodontal treatment. Indian J Dent Res. 2012;23:294.

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Need for Diabetic Screening in a Periodontal Set Up

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ABSTRACT

INTRODUCTION: Periodontitis has been proved to be linked deeply with the chronic ailment diabetes. Research data shows that their relationship is direct and bifacial. The prevalence of both these diseases is on the rise but still there is a scarcity of diabetic screening in periodontal set-ups.
AIM: To lay emphasis on the need of diabetic screening in a periodontal set-up
MATERIAL AND METHODS: An observational, cross-sectional study with an initial sample size of 200 patients was conducted. Periodontitis was evaluated with the CPI index and RBS was measured using a blood glucometer.
RESULTS: Significant difference in the periodontitis patients who were aware and unaware of their diabetic status.
CONCLUSION: Screening for diabetes in a periodontal clinic is conducive to the creation of awareness and early detection and treatment of such a chronic disease and can help avoid the setting in of related complications by giving the patient a chance to initiate an early intervention.

KEYWORDS: Periodontitis, Diabetes Mellitus, Blood Glucose

INTRODUCTION

Diabetes and periodontitis are diseases, chronic in nature and both possessing immuno-inflammatory components. It is an established fact now that both of the afore mentioned diseases are related in more than one way and share a bifacial relationship. The status of one may affect the other and vice-versa.[1,2] There are a sea of researches that suggest an oral health or a periodontal screening for diabetic patients and this study was undertaken to lay emphasis on the importance of diabetic screening in a periodontal setup. The aim of the study was to assess the importance of diabetic screening in a periodontal setup.

MATERIALS AND METHODS

The study is a cross-sectional, non-interventional and observational study. A total of 150 patients taken from the OPD Department of Periodontics of Panineeya Dental College comprised the sample of the study. The ADA criteria was used to classify diabetes.[3,4] Any patient with an RBS of ≥200mg/dl was considered diabetic and counselled to go for a confirmatory test. The Community Periodontal Index(CPI) was used to classify periodontitis. The inclusion criteria was patients with age >25 years, diagnosed with chronic severe periodontitis and willing to participate in the study. The exclusion criteria included the patients not willing to participate in the study, and, pregnant and lactating women.

150 patients with severe periodontitis (LOA ≥1) were selected and screened for diabetes with random blood sugar, measured by a blood glucose meter. Patients with a reading <200mg/dl were suggested to get blood sugar tested periodically and sent for a periodontal treatment and those with RBS ≥ 200mg/dl were enquired if they knew about their diabetic status. The patients who knew they had diabetes were counselled to keep their blood sugar under check and special emphasis was laid on periodontal health counselling and then were sent for a periodontal treatment. The patients who were unaware of their diabetic status were counselled to further get a confirmatory test for diabetes done and were explained the importance of maintaining periodontal health and keeping their diabetic status in check and then were sent for a thorough periodontal treatment.

The procedure is explained in figure 1.

RESULTS

A total of 200 patients were screened, out of which 180 patients met the inclusion criteria. 30 patients did not

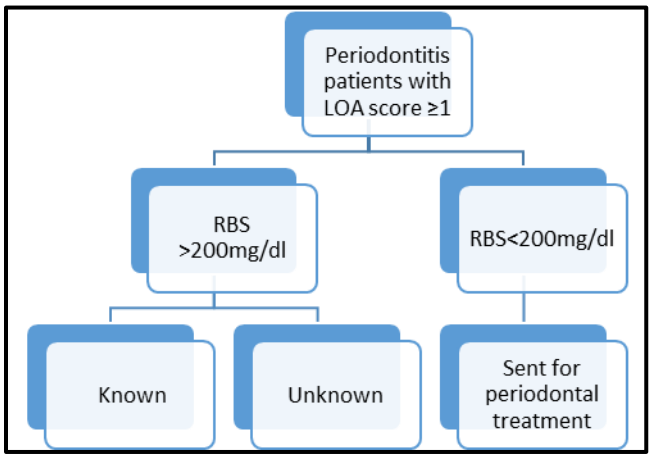

Figure 1. Procedure and Study Design

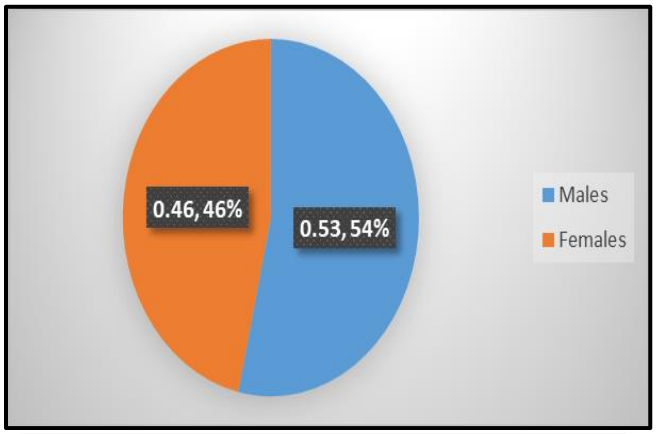

Figure 2. Demographic Data of the Study Population

turn up for the diabetic screening and were excluded from the study, finally, 150 patients were evaluated. 34 patients had an RBS of <200 mg/dl out of which 16 were males and 18 were females, and 116 patients had an RBS ≥ 200mg/dl out of which 64 were males and 52 were females(Table 1).

	RBS<200	RBS>200
MALES	16	64
FEMALES	18	52

Table 1. Demonstrating Number of Males and Females with RBS More or Less Than 200

Thirty-one patients out of 116 knew about their diabetic status of which 15 were females and 16 were males. 85 patients did not know about their diabetic status (males-48; females-37). There was a statistically significant difference(p-0.003) between the periodontal patients who knew and those who did not know they had diabetes. When gender wise comparison was done 56.4% of males did knew there diabetic status when compared to females (43.6%) but there was no significant gender predilection detected (Table 2).

	KNOWN DIABETIC STATUS	UNKNOWN DIABETIC STATUS	TOTAL	P VALUE
MALES	16(51.6%)	48(56.4%)	64	
FEMALES	15(48.4%)	37(43.6%)	52	**0.0033**
Total	31(100%)	85(100%)		

Table 2. Demonstrating Diabetic Status Of Patients With RBS Value More Than 200

DISCUSSION

This study was carried out to emphasize the need of screening for diabetes in a periodontal set-up. This serves two major purposes, first one being that the clinicians gets an idea about the diabetic status of the patient, according to which they could modify their treatment plans and take necessary care required for such patients and secondly, it could serve as a flag-point for the patients to know about the possibility of having diabetes and taking an early step ahead for preventing its severity and avoid complications with timely treatment. This practise is especially helpful in developing countries like India where diabetes is on a rise[1] and periodontitis being a widespread disease brings a lot majority of people to the periodontists. Periodontitis and Diabetes share a lot of common risk factors and are interrelated which makes the diabetic screening in a periodontal setup even more necessary and appropriate. Loe et al. in 1993, described periodontitis as the "sixth complication of diabetes"[2] and in 2003 the American Diabetic association recognized the importance of the two-way relation between diabetes and periodontitis.[4] According to a study conducted by Rosedale et al., the patients visiting periodontists and the clinicians themselves consider the dental visit as a good opportunity for diabetic screening.[5] The NHANES data published in 2019 concluded that the screening for diabetes and

prediabetes during dental visits had a potential to make about 22.36 million adult patients aware of the risk they carry for the disease.[6] The present study points to similar conclusions. Diabetes and periodontitis have shared the lime-light for a over a decade now, for the relation they share. A poorly controlled diabetic status alters the immune status of an individual to a level that a vulnerability of developing other diseases may occur. The inflammatory and the immune components show a more destructive profile with altered secretions of various cytokines, altered immune-cell functions, increase in the reactive oxygen species and production of advanced glycation end products (AGEs). All of these in-turn increase the severity of periodontal diseases which are majorly an immuno-inflammatory disease. Also, the complications that follow an uncontrolled diabetes, may make the performing of various periodontal procedures difficult and special precautions have to be taken.[5]

Various studies also suggest that patients with severe periodontal disease which has not been treated show a poorer diabetic status than the ones who are treated.[7,8] The present study points to similar conclusions.

CONCLUSION

Screening for diabetes in a periodontal clinic is conducive to the creation of awareness and early detection and treatment of such a chronic disease and can help avoid the setting in of related complications by giving the patient a chance to initiate an early intervention.

REFERENCES

1. Preshaw PM, Alba AL, Herrera D, Jepsen S. Periodontitis and diabetes: a two-way relationship Diabetologia 2012;55:21–31
2. Loe H. Periodontal disease. The sixth complication of diabetes mellitus. Diabetes Care 1993;16:329–34.
3. Classification and Diagnosis of Diabetes: Standards of Medical Care in Diabetes—2018American Diabetes Association. Diabetes Care 2018; 41(Supplement 1): S13-S27.
4. American Diabetes Association Expert Committee on the Diagnosis and Classification of Diabetes Mellitus (2003) Report of the Expert Committee on the Diagnosis and Classification of Diabetes Mellitus. Diabetes Care 26:S5–S20.
5. Rosedale MT, Strauss SM. Diabetes Screening at the Periodontal Visit: Patient and Provider Experiences with Two Screening Approaches. Int J Dent Hyg. 2012; 10(4):250–8.
6. Estrich CG, Araujo MWB, Lipman RD. Prediabetes and Diabetes Screening in Dental Care Settings: NHANES 2013 to 2016. JDR Clin Trans Res. 2019;4(1):76–85.
7. Soskolne W, Klinger A. The relationship between periodontal diseases and diabetes: an overview. Ann Periodontol. 2001;6:91–8. doi: 10.1902/annals.2001.6.1.91.
8. Lalla E, Lamster I, Drury S, Fu C, Schmidt AM. Hyperglycemia, glycoxidation and receptor for advanced glycation end products: potential mechanisms underlying diabetic complications, including diabetes-associated periodontitis. Periodontol 2000. 2000;23:50–62.

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Are We Causing Antibiotic Resistance with Antibiotic Abuse? A Study among Dentists

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ABSTRACT

INTRODUCTION: With the invention of any new technology their comes the boon and curse both. The invention and use of antibiotics comes a problem of antibiotic resistance which is much more in extent than treating the infectious disease. Keeping this in mind the WHO in 2011 gave the theme "combat drug resistance- No action today, No cure tomorrow" which was very significant. The present study was done with the aim to know the prescription pattern of antibiotics for various dental procedures by dental practitioners.

MATERIALS AND METHODS: A specially prepared questionnaire exclusively designed for the study recording all the required relevant general information and information related to antibiotic prescribing patterns was used for data collection. The questionnaire consisted of three sections. The first part of the questionnaire collected the demographic details of the study population like age, gender, Graduate or postgraduate degree, area of specialization and years of practice. In the second section the Questions related to antibiotics use in certain dental clinical procedures and conditions in apparently healthy people were asked from the participants. In the last section of the questionnaire the participants were asked about the questions related to antibiotics use for certain dental clinical procedures in medically compromised cases.

RESULTS: Questionnaire response rate of 73% was recorded. The study showed Augmentin to be the first choice of antibiotic by most of the respondents. The study showed that 64% of the endodontists and 74% of the general dentists prescribed antibiotics during root canal therapy where ideally operative intervention would have sufficed. Overuse of antibiotics for routine scaling and extraction was observed.

CONCLUSION: The dental profession as a whole needs to acquire a deeper understanding of the global effects of unnecessary antibiotic prescription. Antibiotics when judiciously used are precise life-saving drugs.

KEYWORDS: Amoxicillin, Antibiotics, Drug Resistance

INTRODUCTION

With the invention of any new technology their comes the boon and curse both. When Dr Alexander Fleming invented antibiotics he was not aware that what he is doing for the benefit of mankind will become curse one day for human race by its injudicious use. In the recent past there have been dramatic increase in the use of antibiotics by both medical and dental professionals for treatment of even the minor infections and this indiscriminate use of antibiotic has caused antibiotics resistance which has become a worldwide problem now and it is increasing at the alarming rate.[1]

There is not much evidence about how dentist's indiscriminate use of antibiotics contributes to this menance.[2] In dentistry most often antibiotic prescription is mainly for prophylactic use for certain systemic diseases which may be life- threatening and also for the prevention of postoperative infections. There are various school of thoughts who advocate the prophylactic use of antibiotics in healthy people and patients, which is an important criterion medicolegally for medically compromised patients.[3] we have to weigh the benefits of giving prophylactic antibiotic in comparison to their risks of allergic reactions, side effects, and escalating problems of antimicrobial resistance.[4,5]

There have been many guidelines published from time to time for the judicious use of antibiotics but recommendations often clash.[6] From this perspective, it is not surprising that evidence of overuse has been found in other studies on antibiotic prophylaxis administered by general dental practitioners.[6,7] The theme of "World Health Day 2011" was to combat drug resistance-"No action today, No cure tomorrow". This is very applicable at this stage, as the present study categorically demonstrates the issues related to the vast concerns regarding unsystematic use of antibiotics, leading to a bleak tomorrow where cures may be few.

It was found after doing the extensive literature search that there were very few studies done in India related to the antibiotic prescription pattern and role of dentists to the development of antimicrobial resistance in India. Thus, we designed this study to determine the antibiotic prescribing practices among the dentist population in a large suburban city of India.

MATERIALS AND METHOD

This study was a cross-sectional study to determine the antibiotic prescribing practices among dentists in Noida & Greater Noida. All the dentists working in Noida & Greater Noida were invited to participate and

those who gave their consent to participate formed the sample population for the study. Voluntary, written informed consent was obtained from dentists who participated in this study telling them about the purpose of the study and also informing that their identity will be kept confidential. Ethical clearance was taken from the Institutional ethical committee prior to the start of the study.

A specially prepared questionnaire exclusively designed for the study recording all the required relevant general information and information related to antibiotic prescribing patterns was used for data collection. The identity of the participating dentist was kept confidential. The pilot study was done on a small group of dentists to check the viability and applicability of the questionnaire. The necessary changes were done in the questionnaire after the pilot study.

The sampling methodology used in the study was the convenience sampling. A self- administered, pretested questionnaire was used. The questionnaire consisted of three sections. The first part of the questionnaire collected the demographic details of the study population like age, gender, Graduate or postgraduate degree, area of specialization and years of practice. In the second section the Questions related to antibiotics use in certain dental clinical procedures and conditions in apparently healthy people were asked from the participants. In the last section of the questionnaire the participants were asked about the questions related to antibiotics use for certain dental clinical procedures in medically compromised cases. The questionnaire was sent to all the dentists in the Noida and Greater Noida by hand or by email. The completely filled forms were collected and were numerically coded and entered into Microsoft Excel and Statistical Package for Social Science was used for analysis.

RESULTS

Out of total 155 forms send to the dentists of Noida and Greater Noida we received back 113 filled forms with a response rate of 73%. The total 113 received forms were scrutinised and it was found that only 100 forms were completely filled, so the final sample size for the study population was 100.there were total of 100 dentists who participated in the study. Out of total 100 dentists there were 63 general Dental Practitioners, 16 Endodontists, 09 Oral Surgeons, 05 Periodontists, 03 Orthodontists and 04 Pedodontists.

There were 72 males and 28 females in the study population. The mean age of practice was found to be 5.2 years among the study subjects.

Table 1 depicts the antibiotic prescription practice among the study population for different dental conditions. It clearly showed that augmentin (combination of Amoxicillin + Clavulanic) acid was the most preferred drug followed by cefixime, amoxicillin & amoxicillin + cloxacillin, whereas in periodontal conditions doxycycline was the most preferred drug of choice by the dentists.

In our stud we compare the antibiotic prescription patter among specialist and general dentists for various dental conditions. During the comparison between Endodontists & General Dentists antibiotic preferences dentists during root canal treatment it was seen that 64% of Endodontists favored performing root canal treatment under antibiotic coverage, whereas among general dentists 74% preferred antibiotic coverage during root canal treatment. The difference in choosing the antibiotic varied between two groups and it was statistically significant ($p < 0.05$)[Table 2].

During the comparison between Oral surgeon & general dentists it was observed that only 36% of the oral surgeons preferred giving prophylactic antibiotics before extraction of third molar in normal healthy individuals whereas majority of the general dentists 78% gave prophylactic antibiotics to their patients before extraction of third molar[Table 3].

In case of medically compromised cases undergoing dental treatment, [Table 4] Majority of the dentists preferred to prescribe antibiotics for medically compromised cases during scaling, tooth removal, and during root canal treatment. It was found that in cases of medically compromised patients amoxicillin was the first drug of choice.

When we asked the study population the question: Do you prefer to seek advice from the physician to provide prophylactic antibiotics in case of medically compromised cases, majority of the dentists (75%) said “yes” and only 25% of the dentists answered “no.”

In response to the question “If the patient is already on antibiotics prescribed by a general physician for some other medical condition, what do you do?” It was found

ORAL CONDITIONS	WHETHER USE ANTIBIOTICS		AMOXICILLIN	AMOXICILLIN & CLOXACILLIN	DOXYCYCLINE	OFLOXACIN & ORNIDAZOLE	CEFIXIME	AUGMENTIN	CIPLOX TZ	GENTAMICIN	METRONIDAZOLE
	YES	NO									
IRREVERSIBLE PULPITIS	82	18	22	4		24	15	32	3		
SPACE INFECTION	90	10	10				36	38		10	6
PERIAPICAL ABSCESS	88	12		50		7	15	4	16		8
EXTRACTION OF TOOTH	84	16	48			12	6	24	10		
PERIODONTAL SURGERY	70	25			46	10	22	18			4
DISIMPACTION	87	13	15	2		3	34	26	10	5	5
PERICORONITIS	77	23	26	15	5	5	14	24	11		

Table 1. Distribution and Comparison of Antibiotic Prescription Pattern among Dentists in Various Conditions

	DO YOU PRESCRIBE ANTIBIOTIC		AMOXICILLIN (%)	AUGMENTIN (%)	CEFIXIME (%)	OFLOXACIN & ORNIDAZOLE (%)
	Yes (%)	No (%)				
Endodontists	64	36	35	13		52
General Dentists	74	26	42	46		12
	Chi square test =0.157, p=0.67		Chi square test =29.8512 , p=0.0002			

Table 2. Distribution and Comparison of Antibiotic Preference among Endodontists and General Dentists During Root Canal Treatment

	DO YOU PRESCRIBE ANTIBIOTIC		AMOXICILLIN (%)	AUGMENTIN (%)	CEFIXIME (%)	OFLOXACIN & ORNIDAZOLE (%)
	Yes (%)	No (%)				
ORAL SURGEONS	36	64	70	10		20
GENERAL DENTISTS	78	22	65	25		10
	Chi square test =0.142, p=0.59		Chi square test =30.7521 , p=0.0002			

Table 3. Distribution and Comparison of Antibiotic Preference among Oral Surgeons and General Dentists before Third Molar Removal

SYSTEMIC DISEASE	ORAL PROPHYLAXIS		EXTRACTION		ROOT CANAL TREATMENT	
	Yes (%)	No (%)	Yes (%)	No (%)	Yes (%)	No (%)
DIABETES	35	65	68	32	56	44
HYPERTENSION	28	72	48	52	51	49
MYOCARDIAL INFARCTION	54	46	72	28	76	24
BY PASS SURGERY	64	36	85	15	88	12
KIDNEY TRANSPLANTATION	45	55	50	50	75	25

Table 4. The Preference of Antibiotic In Medically Compromised Patients for Routine Dental Procedures

that only 26% of the dentists preferred to consult physician and then to prescribe, whereas 74% of the dentists preferred to continue the same drug regimen.

When the study population was asked Do you prefer antibiotic sensitivity testing before prescribing antibiotics in case of severe facial space infections? Majority of the dentists (64%) said "no" and the rest 36% of the dentists answered "yes."

DISCUSSION

The results of this survey indicate that there is a wide range of antibiotics prescribed by dentists in Noida & Greater Noida. This study was the one of its kind to evaluate a large dental population in a major North Indian city. This study was conducted in Noida & Greater Noida, which is an upcoming educational hub with a majority of the patient population from rural background where sale of over the counter drug is also more common.

The study showed Augmentin to be the first choice of antibiotic by most of the respondents. There was a wide range in the preference for prescribing antibiotics with wide difference in the dosage and duration for a similar condition. It was seen that in cases of pericoronitis, 77% of the dentists preferred to use antibiotics. In these situations judicious use of NSAIDs & warm saline rinses to decrease the symptoms of pain and inflammation initially can prevent the inadvertent use of antibiotics.

While doing surgical impactions in normal healthy individuals, 36% of the oral surgeons and 78% of the general dental practitioners prescribed antibiotics to prevent postsurgical infections. Whereas it has been proved in many studies that Postoperative infections from surgical extractions are very low and there are enough evidences which shows that antibiotics have very less effect in treating post extraction infections.[8,9] Antibiotics should never be used as a substitute for good surgical and aseptic operating techniques.[10]

Endodontic treatment in healthy individuals precludes the use of antibiotics, when good technique is employed in canal preparation, disinfection and obturation.[11] Here it was found that 64% of the endodontists and 74% of the general dentists desired to prescribe antibiotics during root canal therapy where operative intervention alone would have sufficed.[8]

Unfortunately, dentists still prescribe antibiotics in these conditions.[12-19]

It was seen that for treatment of periodontal conditions, periodontists preferred doxycycline more commonly when compared with other dentists who preferred cefixime and Augmentin. It is very much evident that periodontal conditions respond better with doxycycline due to its broad-spectrum action, higher concentration

in gingival crevicular fluid,[20,21] and also it has superior effectiveness against anaerobes. Lack of awareness regarding the efficacy of doxycycline could be a major contributing factor for overuse of Cefixime & Augmentin in these situations.

This study also explored the use of prophylactic antibiotics in medically compromised cases such as Diabetes, Hypertension, myocardial infarction, kidney transplant, heart valve prosthesis, and hip prosthesis. A large proportion of the respondents prescribed prophylactic antibiotics for tooth removal and root canal treatment procedures among these cases. Augmentin was the most prescribed antimicrobial for these procedures, in concordance with other studies.[7] Dentists seem to disregard the ideal recommendation to perform sensitivity tests.

CONCLUSION

• Augmentin (Amoxicillin + Clavulanic acid) was the first choice of drug among most of the study participants; both as a therapeutic drug and a prophylactic drug of choice.
• It was concluded that there was overuse of the antibiotics during certain routine surgical procedures, endodontic therapy which can be avoided if it is done with utmost care and aseptic conditions.
• The practice of doing antibiotic sensitivity tests in medically compromised patients before prescribing the antibiotics and following prescribed guidelines for use of antibiotics needs to be emphasized.

RECOMMENDATIONS

• The dentists should be made more aware about the proper guidelines for using antibiotics in the common dental conditions through workshops and CDE programs to prevent the menance of drug resistance.
• The dearth of studies regarding the prevailing situation in India suggest a necessity to do further systematic and extensive research to gain a better understanding of antibiotics, their use, and disuse.
• There should be more emphasis on the evidence based practice guidelines for prescribing antibiotics to the patients.
•The sale of over the counter drug also should be discouraged among the Indian population to decrease the antibiotic resistance.

REFERENCES

1. Preus HR, Albandar JM, Gjermo P. Antibiotic prescribing practices among Norwegian dentists. Scand J Dent Res. 1992;100:232-5.
2. Haas DA, Epstein JB, Eggert FM. Antimicrobial resistance: dentistry's role. J Can Dent Assoc. 1998;64:496-502.
3. Martin MV, Butterworth ML, Longman LP. Infective endocarditis and the dental practitioner: a review of 53 cases involving litigation. Br Dent J. 1997;182 (12):465-8.
4. Monitoring and management of bacterial resistance to antimicrobial agents: a World Health Organization symposium. Geneva, Switzerland, 29 November-2 December, 1995. Clin Infect Dis 1997;24 Suppl 1: S1-176.
5. Standing Committee of Science and Technology. Resistance to Antibiotics and Other Antimicrobial Agents. London: The stationary Office: House of 19 Lords; 1998.
6. Jaunay T, Sambrook P, Goss A. Antibiotic prescribing practices by South Australian general dental practitioners. Aust Dent J 2000;45:179-86; quiz 214.
7. Palmer NA, Pealing R, Ireland RS, Martin MV. A study of prophylactic antibiotic prescribing in National Health Service general dental practice in England. Br Dent J. 2000;189:43-6.
8. Longman LP, Preston AJ, Martin MV, Wilson NH. Endodontics in the adult patient: the role of antibiotics. J Dent 2000;28:539-48.
9. Rud J. Removal of impacted lower third molars with acute pericoronitis and necrotising gingivitis. Br J Oral Surg. 1970;7:153-60.
10. Longman LP, Martin MV. The use of antibiotics in the prevention of post- operative infection: A re-appraisal. Br Dent J. 1991;170:257-62.
11. Whitten BH, Gardiner DL, Jeansonne BG, Lemon RR. Current trends in endodontic treatment: report of a national survey. J Am Dent Assoc 1996;127:1333-41.
12. Palmer NO, Martin MV, Pealing R, Ireland RS. An analysis of antibiotic prescriptions from general dental practitioners in England. J Antimicrob Chemother 2000;46:1033-5.
13. Demirbas F, Gjermo PE, Preus HR. Antibiotic prescribing practices among Norwegian dentists. Acta Odontol Scand 2006;64:355-9.
14. Salako NO, Rotimi VO, Adib SM, Al-Mutawa S. Pattern of antibiotic prescription in the management of oral diseases among dentists in Kuwait. J Dent 2004;32:503-9.
15. Al-Haroni M, Skaug N. Knowledge of prescribing antimicrobials amongYemeni general dentists. Acta Odontol Scand 2006;64:274-80.
16. Öcek Z, Sahin H, Baksi G, Apaydin S. Development of a rational antibiotic usage course for dentists. Eur J Dent Educ 2008;12:41-7.
17. Yingling NM, Byrne BE, Hartwell GR. Antibiotic use by members of the American Association of

Endodontists in the year 2000: report of a national survey. J Endod 2002;28:396-404.
18. Rodriguez-Núnez A, Cisneros-Cabello R,Velasco-Ortega E, Llamas-Carreras JM,Tórres-Lagares D, Segura-Egea JJ.Antibiotic use by members of the Spanish Endodontic Society. J Endod. 2009;35:1198-203.
19. Mainjot A, D'Hoore W, Vanheusden A, Van Nieuwenhuysen JP. Antibiotic prescribing in dental practice in Belgium. Int Endod J 2009;42:1112-7.
20. Alger FA, Solt CW, Vuddhankanok S, Miles K. The histological evaluation of new attachement in periodontally diseased human roots treated with tetracycline-hydrochloride and fibronectin. J Periodontol 1990;61:447-55.
21. Bader HI, Goldhaber P. The passage of intravenously administered tetracycline in the gingival sulcus of dogs. J Oral Ther Pharmacol 1968;2:324-9.

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