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RESEARCH ARTICLE

EVALUATION OF SELF CARE REMEDIES USED IN MANAGEMENT OF DENTAL EMERGENCIES BY PATIENTS WITH LOW SOCIO-ECONOMIC STATUS IN INDIA - A CROSS SECTIONAL STUDY

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ABSTRACT

Dental emergencies like pain and swelling are annoying situations and often demand urgent attention by dental professional. Poor financial condition, time constraint and non-availability of dentist tempted the sufferer to take the help of some easily available and convenient self care remedies for temporary relief of pain. These remedies will either mask the present illness or flare up the present condition leading to unfavourable treatment outcome. This study encompasses to identify various agents used by patients as self care remedies for management of dental emergencies in low socio-economic group in, Mumbai, India.

Key words:

Pain, dental emergency, self care remedy, low socio-economic group

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INTRODUCTION

Pain is an unpleasant, disturbing symptom and one of the most common reason for person to seek medical assistance.¹ International association for the study of pain defines pain as "Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage or describe in terms of such damage."² In the global era of health awareness, health is highly appreciated especially in developed countries due to positive government policies, medical insurance and available health facilities whereas in developing or underdeveloped countries scenario is in total contrast due to population explosion, poverty, lack of health awareness and poor medical facilities. Though health is the prime concern for all it is usually neglected by the people often due to insufficient source of income, lack of education or knowledge and mostly due to time constraint and high cost of the treatment.

Considering the scenario of our country, almost 70% population resides in village and the remaining urban population has better exposure to all facilities including health services. Urban population consist of people from different socio economic strata like high, middle and low income group where as villages mainly consists of low socio-economic

people. In our study, evaluation of patients from low socio-economic group referred for their dental emergency such as management of acute dental pain, noticeable facial swelling or dental traumatic injuries were evaluated with prime concern regarding the self care remedy used by them prior to visit the dental professional for acute pain relief.

METHOD

In this study, total 1298 subjects were examined, who were referred to the Department of Conservative Dentistry and Endodontics, Endodontic Pain Management Unit from period of September 2015 to December 2016. Out of 1298 patients, 1019 (78.50%) patients who used self care remedy for dental pain management and could be covered under low socioeconomic strata according to updated Kuppaswami classification of socioeconomic status scale and willing to participate were included in the study.³ A structured questionnaire was asked to patients regarding average family income, education, occupation, history of present dental emergency i.e. pain or swelling along with special emphasis on any self care home remedy used by them for relieving the acute symptoms. The history given by selected patients were recorded for study and all patients were immediately scheduled for management of dental emergency after investigations and diagnosis.

Table 1 Different agents used as self care home remedy in 762 (74.77%) out of 1019 patients.

Sr. No.	Agent used for relief from pain/ swelling	Manner of use of the agent/ Medicament	Duration of use of agent/medicament	Total no. of patients	Percentage of patients
1	Ice	Internal or external application in a cloth	3-4 times a day and/or SOS(As and when required)	125	12.27%
2	Warm salt water	Gargling with warm saline water	3-4 times a day and/or SOS(As and when required)	105	10.30%
3	Hot fomentation	External hot fomentation with cloth	3-4 times a day and/or SOS(As and when required)	97	9.51%
4	Clove oil/ Clove	Placing the cotton soaked in clove oil in the carious tooth cavity Intact/crushed clove condensed into carious tooth	Overnight	72	7.07%
5	Salt	Filling the carious tooth with salt -Filling the carious tooth with balm	Overnight	20	1.96%
6	Balm (External Ointment)	-External/ Internal application near the affected tooth area	Overnight	30	2.94%
7	Turmeric powder	Filling the carious tooth with the turmeric powder with overlying cotton dressing	Overnight	19	1.86%
8	Eucalyptus oil (Nilgiri oil)	Placing a cotton soaked in eucalyptus oil in the carious tooth cavity	Overnight	38	3.72%
9	Asafoetida	Filling the carious tooth with asafoetida with overlying cotton dressing	Overnight	15	1.48%
10	Cotton	Placing a plain or cotton soaked in medication in the carious tooth cavity	Overnight	38	3.72%
11	Lime	Filling the carious tooth with the lime	Overnight	26	2.56%
12	Liqurice (Licorice)	Filling the carious tooth with thick paste of licorice and water	Overnight	18	1.77%
13	Camphor	Filling the carious tooth with the powder of camphor	Overnight	8	0.79%
14	Sesame oil	Placing a cotton soaked in normal/ warm sesame oil in the carious tooth	Overnight	22	2.16%
15	Alum	Filling the carious tooth with the powder of alum	Overnight	17	1.67%
16	Garlic	Filling the carious tooth with crushed garlic	Overnight	23	2.25%
17	Neem leaves	Putting juice of crushed leaves of neem in a cotton or condensing crushed neem leaves into carious tooth cavity	Overnight	29	2.84%
18	Red hot wire	Putting a red hot piece of wire in direct contact with exposed pulp tissue in the carious tooth	1-5 seconds	2	0.19%
19	Charcoal	Filling the carious tooth with the powder of charcoal	Overnight	7	0.69%
20	Misri (Powdered tobacco)	Applying near the affected tooth area over gingival	Overnight	17	1.66%
21	Alcohol consumption	Drinking excessive alcohol	At night	34	3.33%

Table 2 Different self medications used by 257 (25.23%) out of 1019 patients

Sr. No.	Agent used for relief from pain/ swelling	Manner of use of the agent/ Medicament	Duration of use of agent/medicament	Total no. of patients	Percentage of patients
1	Analgesics -Paracetamol -Ibuprofen -Diclofenac sodium -Nimesulide -Asprin -Tramadol (Single or in combination)	OTC NSAID's suggested by chemist -Oral intake -Crushing the tablet and condensing its powder into the carious tooth cavity	-SOS (As and when required)	181	17.77%
2	Antibiotics -Amoxicillin - Ampicillin - Ofloxacin - Ornidazole -Cefixime (Single or in combination)	OTC antibiotics suggested by chemist -Oral intake -Crushing the tablet and condensing its powder into the carious tooth cavity	-SOS -(As and when required)	76	7.46%

Table 3 Gender wise demographic data of total 1019 examined patients.

Gender(Sex)	No. of Patients	Percentage
Female	668	65.55%
Male	351	34.45%

Table 4 Age wise demographic data of 1019 examined patients

Age in years	No. of Patients	Percentage
15-25	228	22.38%
26-35	359	35.23%
36-45	236	23.16%
46-55	153	15.01%
56-70	43	4.21%

Table 5 Data of 1019 patients revealing the reasons for using self care home remedy or self medication

Reasons	No. of Patients	Percentage
Time constraint	283	27.78%
Low income- non affording dentist fees	279	27.38%
Convenience	115	11.28%
Sudden, unexpected pain at night, so as temporary pain relief method before consulting the dentist	80	7.86%
Proven effective method when used previously	72	7.06%
Minimal/ lack of education	138	13.54%
Fear of dental procedures	52	5.10%

Table 6 Data of 1019 patients revealing source for using self care home remedy and self medication

Sources of advise	No. of Patients	Percentage
Elder /senior people in home	285	27.97%
Neighbours	50	4.90%
Friends	128	12.57%
Chemist	236	23.16%
Advertisement	83	8.15%
Previous prescription of dentist	194	19.03%
Internet search	43	4.22%

During questionnaire session, patients narrated use of various agents, medicaments or medicines and their manner of use for relief of acute symptoms such as dental pain and/or swelling as described in Table 1 and Table 2.

RESULTS

In our study total 1019 patients were evaluated with identified use of self care remedy. Out of which 351 (34.45%) were male and 668 (65.55%) were female patients. The patients evaluated, were between 15-70 years with average age of 25-45yrs. Out of 1019 examined patients, 644 (63.19%) were presented with acute pain while 202 (19.82%) patients were diagnosed with acute alveolar abscess. From 644 patients, total 427 (41.90%), 237 (23.26%) were diagnosed with acute irreversible pulpitis and acute apical periodontitis respectively. Also, 153 (15.02%) patients were diagnosed with acute exacerbation of chronic periapical lesion.

DISCUSSION

Dental pain is considered to be one of the most severe types of pain the mankind suffers. To relieve the pain especially when no possible medical care could be available to person, they tend to take the help of traditional home remedies or over the counter (OTC) medicines before actually consulting the dental professional. Self care home remedies for managing dental

pain are usually practiced by many people belonging to low socio-economic strata. Whereas self medication is widely practiced by educated people in the urban community.^{4,5}

In underdeveloped or developing countries like India, for management of dental emergencies like severe pain or swelling; people often use home remedies or OTC medicines advised by elderly people or suggested by friends, neighbours, relatives, and advertisements.⁶ When these home remedies failed to give relief or gave temporary relief; the patient consult the dentist for the proper treatment of their teeth. The two aspects of this study are to evaluate the type of home remedial methods used by patients and other is type of self medication taken by patients to deal with dental emergency situations. In our study 668 (65.55%) female patients and 351 (34.45%) male patients were examined, indicating high prevalence rate of using self care remedy in females than in males. This study showed that, 762 (74.78%) patients take help of known and unrecognised traditional agents and methods to manage dental pain and swelling. About 257 (25.22%) patients take medicine available over the counter on advice of elders, neighbours or the chemist. Various reasons were revealed in our study for using self care remedy such as lack of time to visit dentist due to prolong working hours, high fees for dental treatment, convenience and fear about the dental procedures. In our study time constraint and low family income are the most common factors in total 562 (55.16%) patients which promote the use of self care remedy and self medication. In Indian society the advice of elder people is usually followed without a question and further when patient is in severe pain, he follows what elder says. Thus, tendency to use self care home remedy is found to be strongly evident in people with no or low education, convenience and poor economic condition as evident in our study.

In our study about 21 different home care remedies were revealed in the examined patients which were used overnight giving them temporary relief. In presence of noticeable swelling, remedies like use of hot water fomentation or gargling worsen the condition in all people who use this remedy. The clove oil and intact clove were the choice of agents used by 7.07% of patient which gave them definite temporary relief. One of the crude methods was used in 2 patients on elderly advice at home, as to put red hot wire directly in the open carious tooth. This act increased the pain severity and turned the localised swelling into submandibular and submental space infection requiring hospitalization after management of pain in both patients. In our study, it has been observed that in 106 patients using ice application, hot saline gargling or external fomentation relieved the pain but reduced the drainage of abscess either by converting localised abscess into space infection or preventing drainage by thickening the pus. Crushed Neem leaves were used by 29 (2.84%) patients and found to be effectively good in 7 (0.68%) patients for temporary relief of acute pain. A strange observation was recorded that, 34 (3.33%) male patients take excess alcohol to manage severe pain in the night. In further evaluation, patients reported that other agents mentioned in study used for self care were not at all found to effective in pain or swelling even as a temporary measure.

Inquiry regarding the sources of pain relieving methods used by examined patients in the study revealed various sources of information such as, the advice of elderly in the family or relatives or neighbours, advice of chemist, previous

prescription of dentist, advertisements and information on internet. Self medication can be defined as, "Obtaining and consuming one (or more) drug(s) without the advice of a physician either for diagnosis, prescription or surveillance of treatment".⁷ OTC drugs usually use for self-medication but they might be misused due to lack of knowledge of their dose, side-effects and drug interactions or allergic reactions. Self medication may result in serious challenges such as increased microbial resistance, adverse reaction and prolonged suffering. Self-medication is highly prevalent in both urban and rural population ranging from 32.5% to 81.5%.⁸⁻¹⁰ In our study it was observed that 181 (17.77%) patients take analgesics whereas 76 (7.46%) take antibiotics OTC. Studies in the literature have shown that the prevalence of self-medication in India is more in urban population than in rural population to about 37% and 17% respectively.¹¹ In a study the prevalence of self-medication in a rural population in Maharashtra has been found to be 81.5%.¹⁰

The study in India by Keshari *et al.* showed that, previous doctor's prescription (72.6%) was the major source of self-medication information⁶, followed by chemists and advertisements⁶. These findings were consistent with our study and the earlier reports.¹²⁻¹⁴ In rural areas as doctors are not available in time, so rural population tend to use doctor's previous prescription for pain relief. Whereas in urban low socioeconomic population due to poverty, convenience and neglect to health; people use doctor's previous prescription for pain relief or OTC drugs. Most common reason for self-medication in our study (27.78%) and two other similar studies by Keshari *et al.* and Pandya *et al.* was time saving with prevalence of (45.2%)⁶ and (41.2%)¹⁵ respectively.

CONCLUSION

This research showed insight picture of self care home remedies practiced in low socio-economic population for management of dental pain. Low income, minimal education and time constraint are more prevalent causes for attempting self remedies by people; whereas advice of elders or chemist and use of dentist's previous prescription plays a vital role in self medication in dental pain management. Further research is needed to get more information about the safety, success and validity of these home care remedies.

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