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An Observational Study on Effectiveness of Homoeopathic Management in Dental Caries Pain among 8-12 Years School Going Childrens using Visual Analogue Scale of Faces

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ABSTRACT
Dental caries is the most common chronic infectious disease of childhood caused by interaction of bacteria ,mainly streptococcus mutants and sugary foods. visual analogue scale of faces (VASOF) is regarded as the gold standard for pain recording in children. Usually pain felt better within 2 hours of medication. This Shows that homoeopathy is well suited for acute pain especially in the field of dentistry.

KEYWORDS: Dental caries, visual analogue scale of faces, homoeopathic medicines

1. INTRODUCTION

Dental caries is the most common chronic infectious disease of childhood caused by interaction of bacteria ,mainly streptococcus mutants and sugary foods(1). The world health organization (WHO) defines caries as a localized post eruptive, pathological process of external origin involving softening of the hard tooth tissue proceeding to the formation of a cavity(2). Dental caries in infants and children has several names including baby bottle caries or baby bottle tooth decay but the term early childhood caries is now followed(36). More than 530 million of children loss their primary teeth due to dental caries(37). Studies show that about 15.6% of school going children are suffering with dental pain(36).In several parts of India , the prevalence is 65-70% among the general population. It results from demineralization and dissolution of enamel and dentine(4).It is found that in newly industrialized or the developing countries there is evidence of increasing rate of caries in the children and the adults as well(5).The condition remain asymptomatic till the lesion reaches the dentino enamel junctions, since there are no nerve endings in enamel , Early lesions appears as chalky white areas on the enamel surface.Later the chalky areas become brown or black the initial symptom is sensitivity to sweet, cold or hot drinks ,pain develops when the pulp becomes hyperemic .The pain is only poorly localized the patient may not be able to pinpoint the affected tooth. As the acute condition subsides pain becomes dull. If the pulp undergoes necrosis pain is abolished and the condition remain symptom less for a while. As the inflammation extends outside the tooth ,pain returns. Pain is the most frequent symptom of oral disease(3). It has also been famously referred to as fifth vital sign(41). But it is unfortunate that pain recording is not a normal history taking procedure .The recording of pain perception has been questioned for its efficacy and need it is really Whether it is really

required. Pain perception especially in children is highly confusing due to the factors that the recording of pain perception in children is stated to be highly variable and unreliable[42].
visual analogue scale of faces (VASOF) is regarded as the gold standard for pain recording in children[6].
A recording of pain perception was done using the Visual analogue scale of faces (VASOF). The scale comprises row of five faces showing expression which range from a minimum score of 1(Very Light pain) Score of 2 (Light pain) Score of 3 (Moderate pain) Score of 4 (Intense pain) Score of 5(Excruciating pain)[35].
Few studies proved homoeopathy has a wide scope in dentistry[38]. Dental problems like caries can be either tackled with homoeopathic medicines[39]. Usually pain felt better within 2 hours of medication. This Shows that homoeopathy is well suited for acute pain especially in the field of dentistry[40]. The homoeopathic point of view on fluoride is helpful in preventing caries[35].It seems a natural progression to use a homoeopathic preparation of fluoride in research on the possibility of preventing caries. It would be wonderful to think that homoeopathy has the answer to dental caries[30].

2.NEED FOR THE STUDY

Dental caries is a complex disease because of nature of the multifactorial factors that are responsible for its onset and progression. The knowledge and understanding of homoeopathic approach of treatment in dental diseases are still an ongoing process .This study was conducted to observe the effectiveness of Homoeopathic management in dental caries pain among 8-12 years school going children's using visual analogue scale of faces (VASOF).

3.AIMS AND OBJECTIVES

- To evaluate the improvement of dental caries pain by Homoeopathic medicine.
- To know the frequently indicated Homoeopathic medicine for the treatment of dental caries pain.

4.METHODOLOGY

MATERIALS AND METHODS

Source Of Data:

A sample of minimum 30 cases with symptoms of dental caries pain will be taken from the OPD and IPD of Maria homoeopathic medical college and hospital thorough case taking is done and recorded in standardized prestructural case record of Maria homoeopathic medical college and hospital. The case will be analysed and totality will be erected. Then the symptoms will be evaluated and repertorised(if necessary)and a suitable medicine will be selected on the basis on Materia Medica, medicinal dose, potency, followup will be done as per the direction of organon of medicine. Pain assessment using Visual Analogue Scale of Faces (VASOF) will be done on subsequent follow ups and changes observed in the patient and recorded . Improvement criteria are based on pain features assessed under Visual Analogue Scale Of Faces (VASOF).

METHOD AND COLLECTION OF DATA

- Sample size minimum 30 cases.
- Sample technique-Random sampling.
- Random selection minimum 30 cases of dental caries pain from the OPD and IPD of Maria homoeopathic medical college and hospital, presenting with symptoms of dental caries pain.

INCLUSION CRITERIA

- Both sexes
- Age between 8-12 years school going children

EXCLUSION CRITERIA

- Below 8 years and above 12 years
- Mentally disabled children
- Children with pulp necrosis
- Children with fixed partial denture

STUDY DESIGN

- Single group, Study without control.
- The study have been carried out at Maria homoeopathic medical college and hospital.
- Data have been collected according to standardized prestructural Maria homoeopathic medical college and hospital case record.
- Case taking along with physical examination and required investigation will be done.
- Pre and post treatment analysis have been done using feature of pain assessed under Visual Analogue Scale Of Faces (VASOF).
- Prescription is done with reference to standardised textbook of Materia Medica as well as Repertory and organon of medicine whenever it is necessary.

TYPE OF STUDY: An observational study.

DURATION OF STUDY: 6 months

SELECTION OF TOOLS

- Prestructural Maria homoeopathic medical college and hospital case record.
- Assessment criteria is based on the improvement of dental caries pain under Visual Analogue Scale Of Faces (VASOF) for evaluating the prognosis of the case.

BRIEF OF PROCEDURES

The study was done from OPD and IPD of Maria Homoeopathic medical college. 30 cases were included in this study. Cases were analyzed in details , totality of symptoms is framed potency Selection , follow up analysis is done with homoeopathic materia medica and philosophy and repertorised (if necessary) Follow up of the cases is maintained for minimum 12 hours. Improvement of dental caries pain is based on feature of pain assessed under Visual analogue sale of faces(VASOF).The scale comprises row of five faces showing expression which range from a minimum score of 1(Very Light pain) score of 2 (Light pain) Score of 3 (Moderate pain) score of 4 (Intense pain) score of 5(Excruciating pain)[35]. The faces were made of boy and girl showing no ethnicity or racial features in the form of a cartoon with expression. All the children were shown the VASOF with needed explanations to understand the concept . They where asked to choose the face most similar to what they were feeling at the moment.

5.OBSERVATION AND RESULTS

TABLE:1

DISTRIBUTION OF CASES ACCORDING TO AGE

SL.NO	AGE GROUP	NUMBER OF CASES
1	8 YEARS	7
2	9 YEARS	5

3	10 YEARS	4
4	11 YEARS	4
5	12 YEARS	10

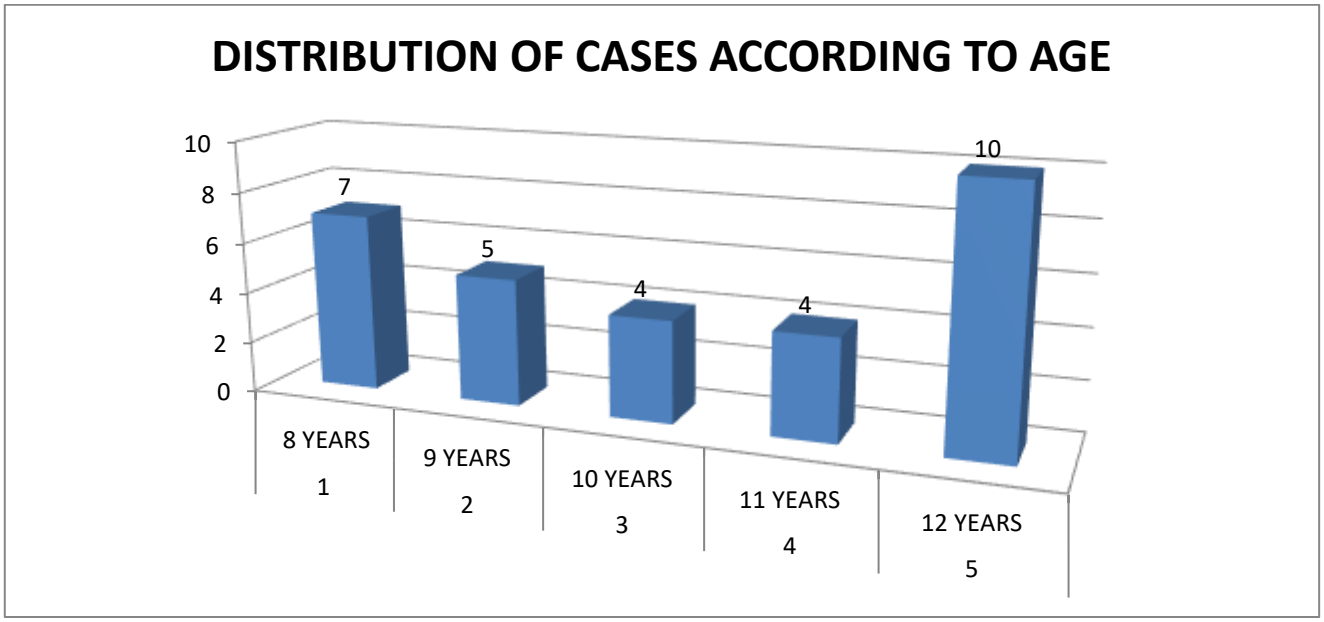


TABLE:2
DISTRIBUTIONOF CASES BASED ON SEX

SL.NO	MALE	FEMALE
1.	12	18

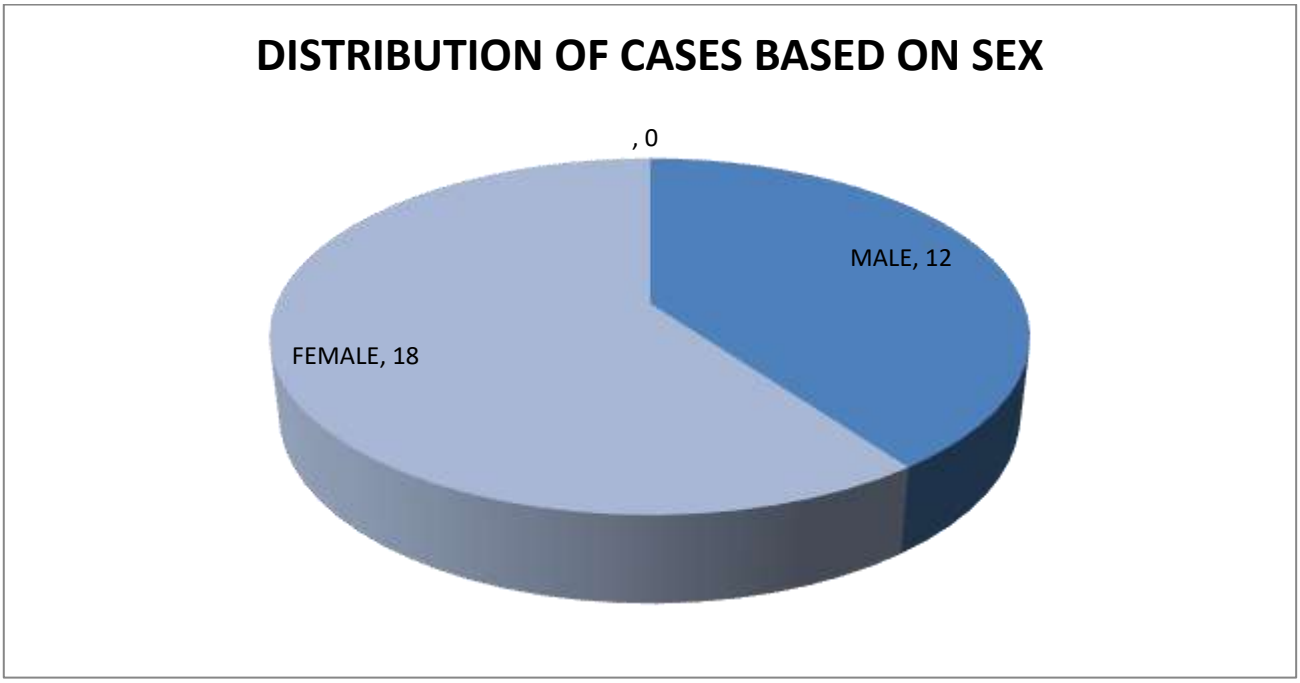


TABLE:3
DISTRIBUTION OF CASES ACCORDING TO FAMILY HISTORY

SL.NO.	FAMILY HISTORY	NUMBER OF CASES
1.	PRESENT	21
2.	ABSENT	9

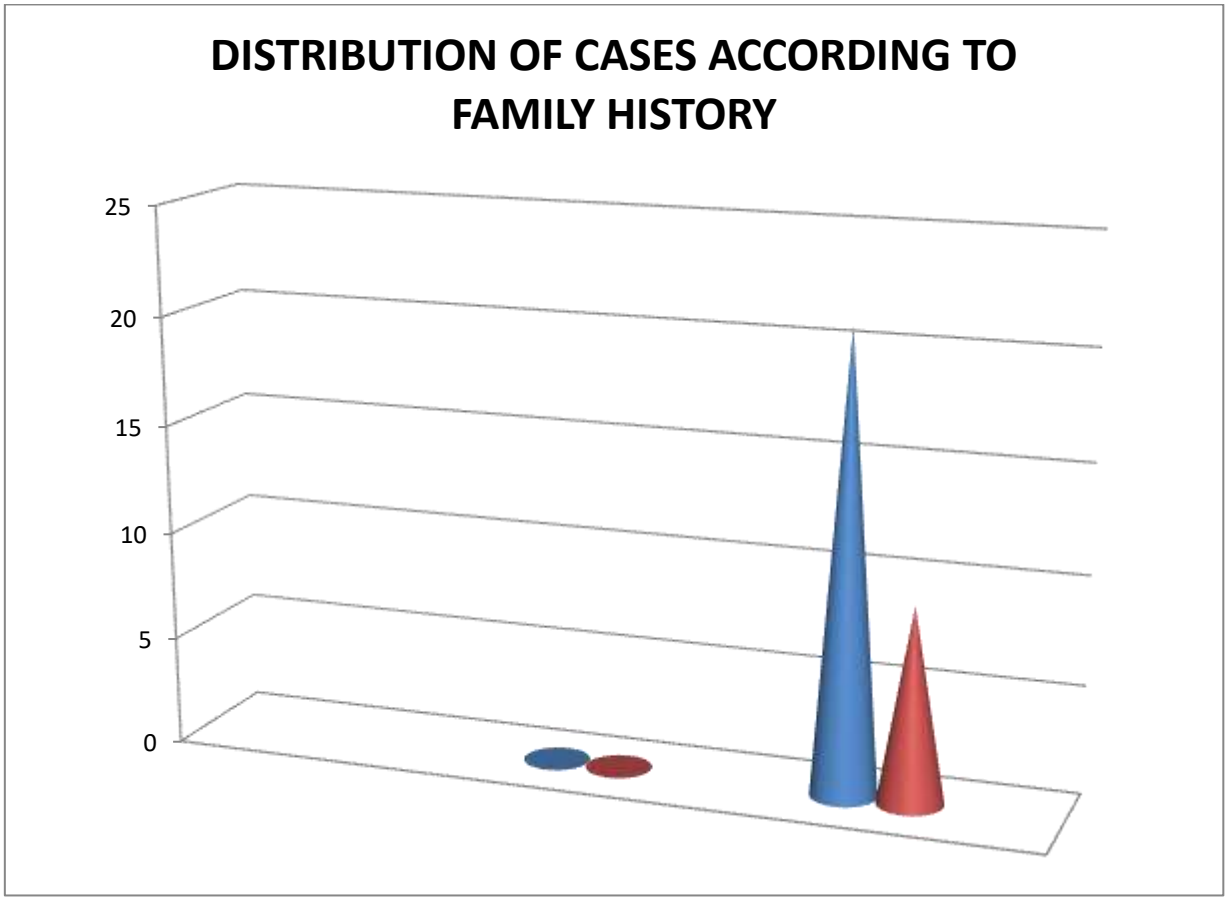


TABLE:4
DISTRIBUTION OF CASES BASED ON AGGRAVATING FACTORS

SL.NO.	AGGRAVATING FACTORS	NUMBER OF CASES
1.	COLD FOODS	8
2.	HOT FOODS	6
3.	COLD FOODS,HOT FOODS&SWEETS	4
4.	SWEETS	3
5.	COLD FOODSAND SWEETS	2
6.	HOT FOODS AND SWEETS	1

7.	COLD FOODS AND HOT FOODS	6

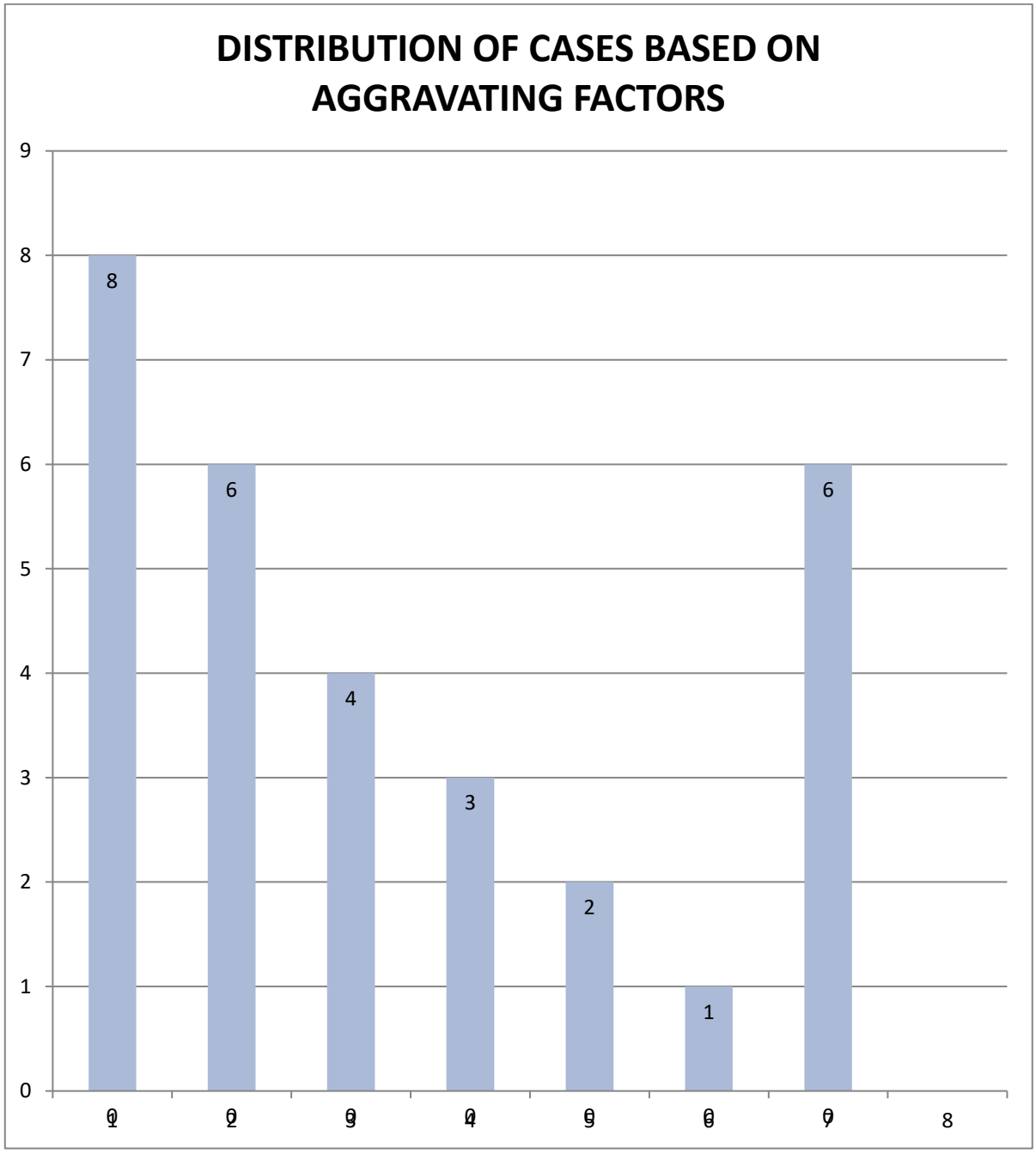


TABLE:5 DISTRIBUTION OF CASES BASED ON TOOTH AFFECTED

SL.NO.	BASED ON TOOTH AFFECTED	NUMBER OF CASES
1.	LOWER FIRST MOLAR	18
2.	LOWER CENTRAL INCISOR	1

3.	LOWER FIRST PREMOLAR	5
4.	LOWER SECOND PREMOLAR	1
5.	UPPER CENTRAL INCISOR	1
6.	UPPER FIRST MOLAR	2
7.	UPPER SECOND PREMOLAR	2

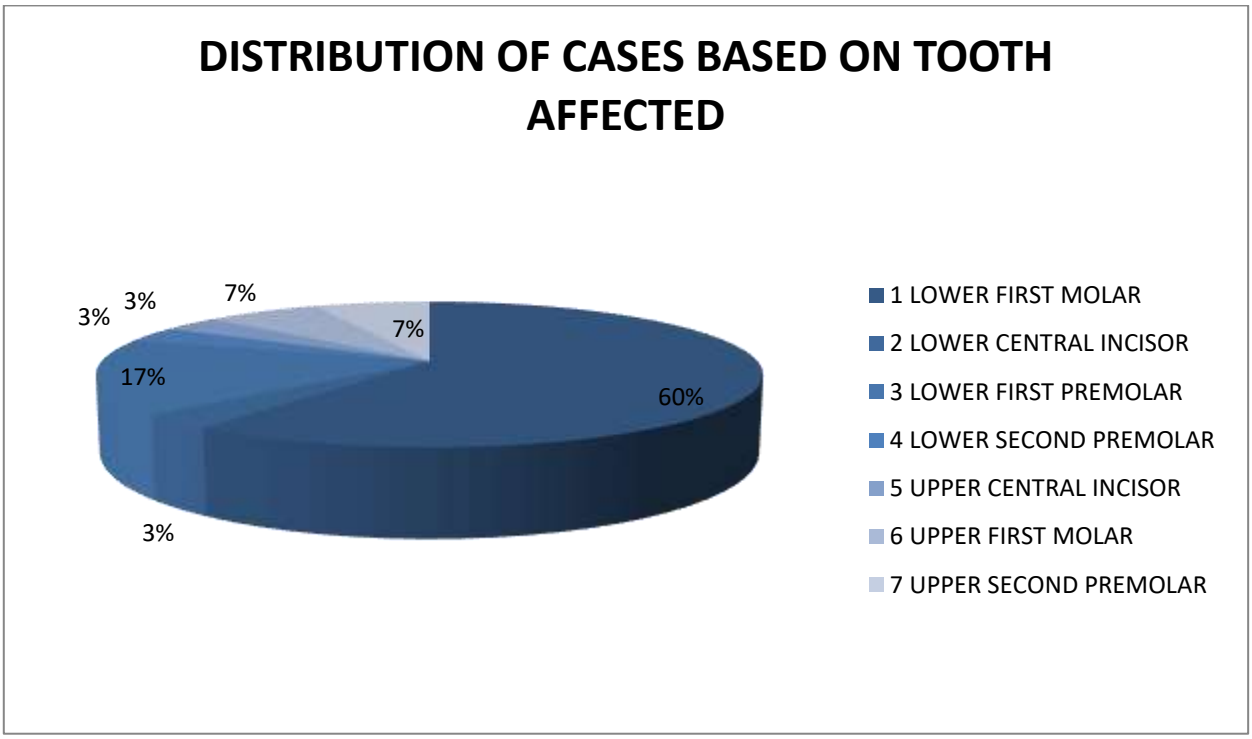


TABLE:6
DISTRIBUTION BASED ON MEDICINE PRESCRIBED

SL.NO.	MEDICINE PRESCRIBED	TOTAL NUMBER OF CASES
1.	GRAPHITES	1
2.	CHAMOMILLA	3
3.	KALI CARBONICUM	1
4.	BELLADONNA	3
5.	LACHESIS	1
6.	STAPHYSAGRIA	3
7.	ALUMINA	2
8.	BRYONIA ALBA	4
9.	PHOSPHORUS	1

10.	MERCURIUS SOLUBLIS	2
11.	KREOSOTUM	1
12.	NATRUM CARBONICUM	3
13.	SILICEA	2
14.	AMMONIUM CARBONICUM	1
15.	MEZERIUM	1
16.	CARBOVEGETABLIS	2

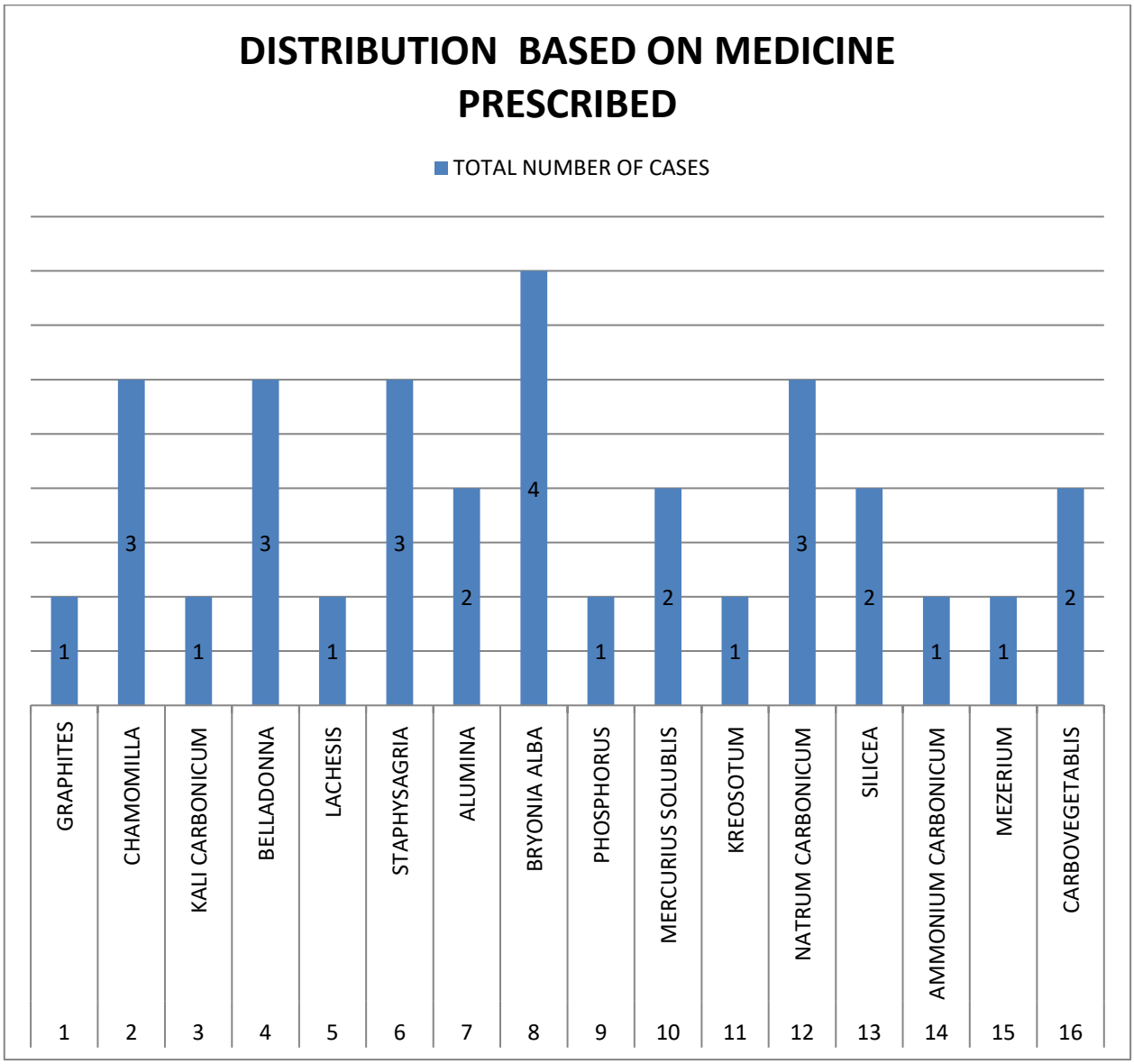


TABLE:7

DISTRIBUTION OF CASES ACCORDING TO FEATURE OF PAIN ASSESSED UNDER VISUAL ANALOGUE SCALE OF FACES (VASOF) BEFORE TREATMENT

FEATURE OF PAIN	SCORE	NUMBER OF CASES
VERY LIGHT PAIN	1	5
LIGHT PAIN	2	3
MODERATE PAIN	3	7
INTENSE PAIN	4	7
EXCRUCIATING PAIN	5	8

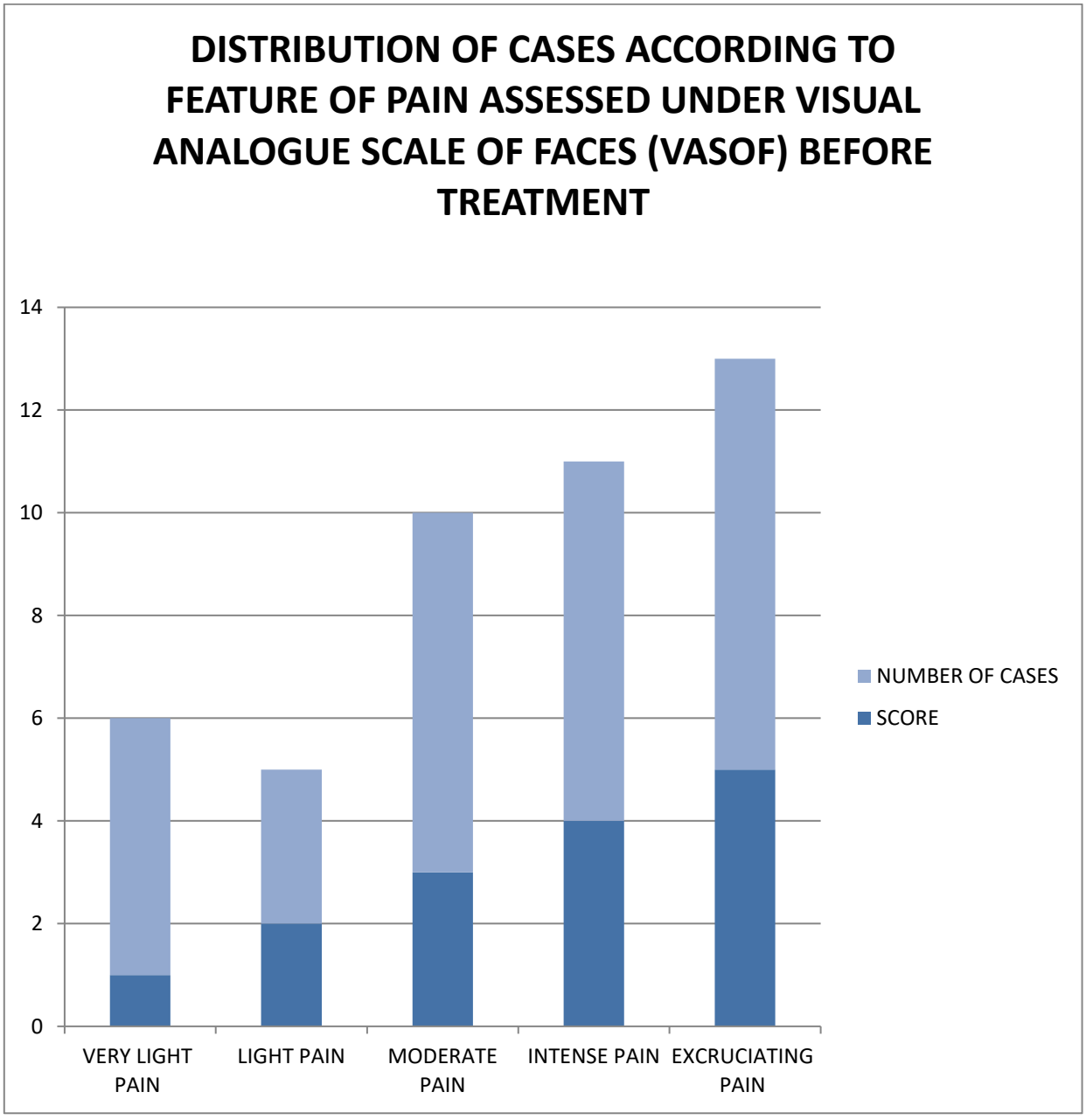


TABLE :8

DISTRIBUTION OF CASES ACCORDING TO FEATURE OF PAIN ASSESSED UNDER VISUAL ANALOGUE SCALE OF FACES (VASOF) AFTER TREATMENT

FEATURE OF PAIN	SCORE	NUMBER OF CASES
VERY LIGHT PAIN	1	21
LIGHT PAIN	2	0
MODERATE PAIN	3	5
INTENSE PAIN	4	2
EXCRUCIATING PAIN	5	2

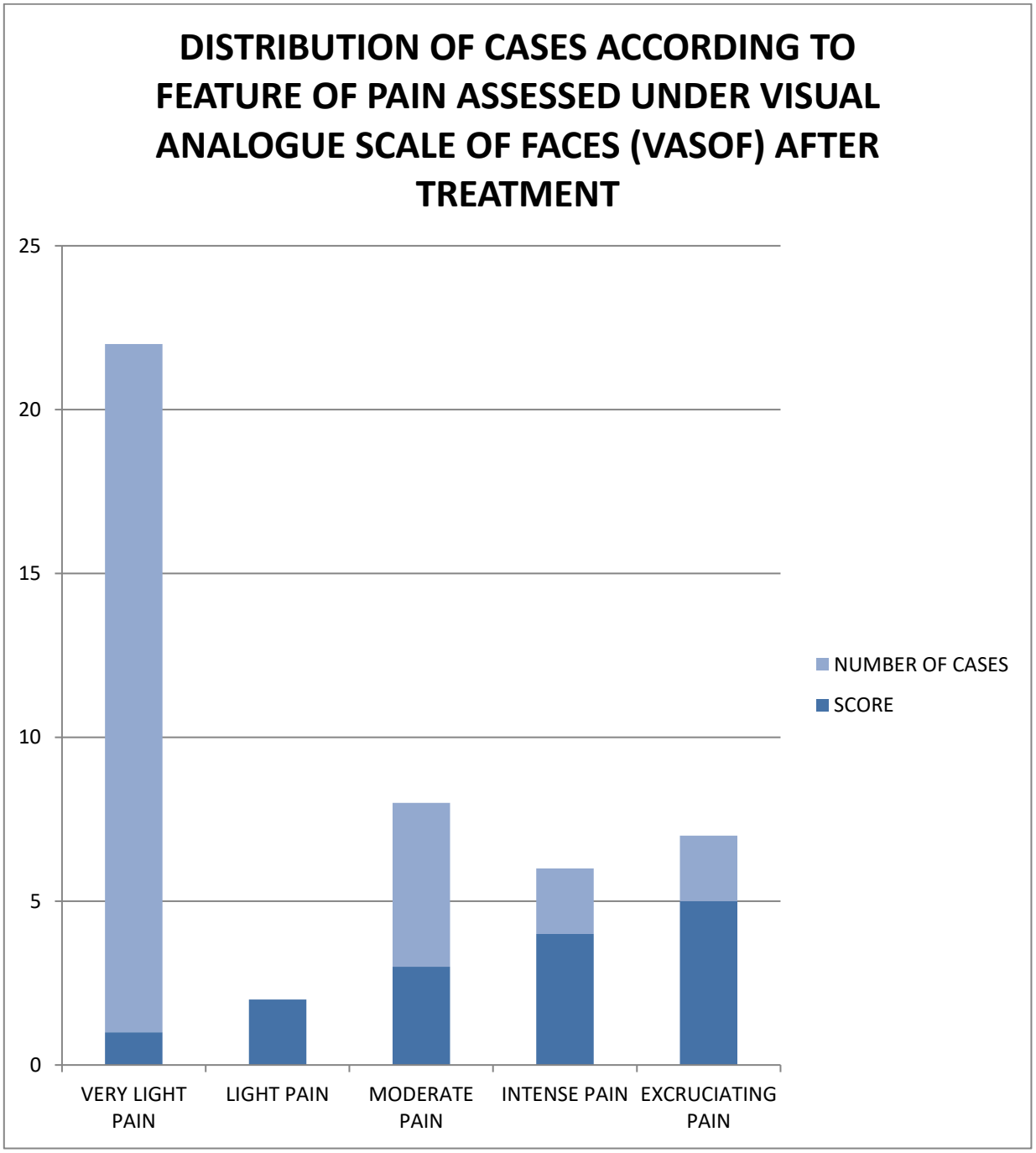


TABLE:9
TIME TAKEN FOR THE IMPROVEMENT OF DENTAL CARIES PAIN AFTER MEDICINE

	0-2 HOURS	2-4 HOURS	4-6 HOURS	AFTER 6 HOURS	NO IMPROVEMENT
NO.OF CASES	9	5	4	7	5

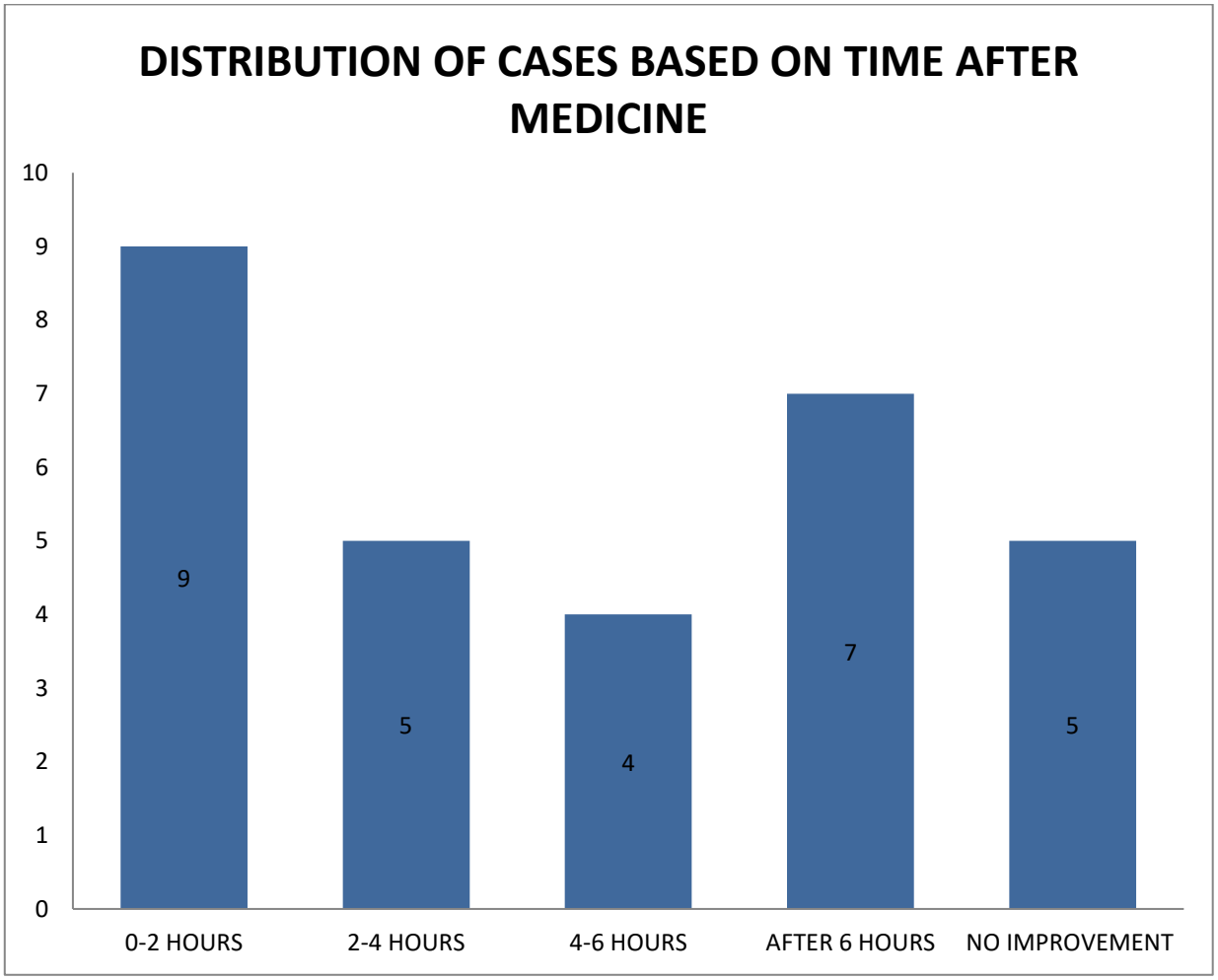
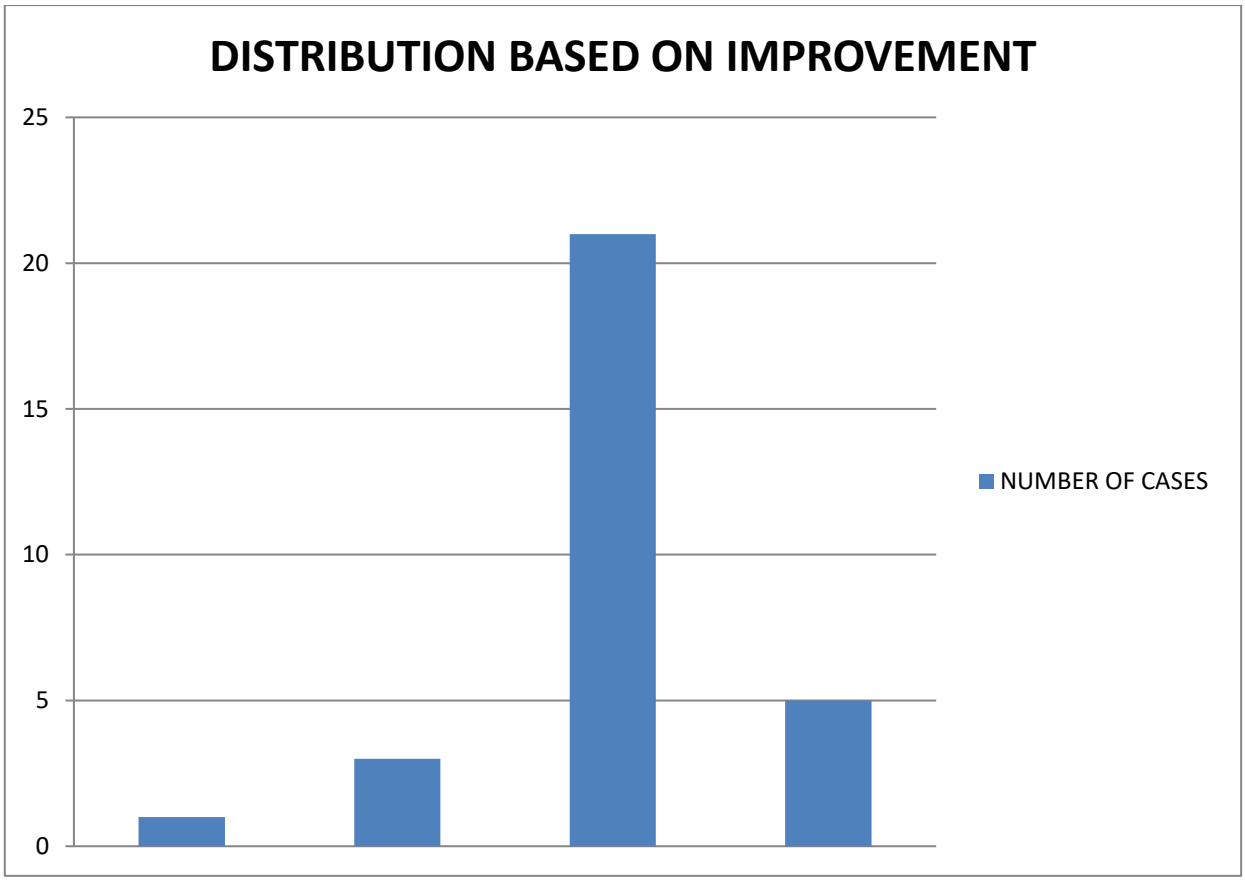


TABLE:10
DISTRIBUTION BASED ON IMPROVEMENT

SL.NO.	IMPROVEMENT	NUMBER OF CASES
1.	MILD	1
2.	MODERATE	3
3.	MARKED	21
4.	NO	5



6. DISCUSSION

30 cases of dental caries are treated with individualized homoeopathic medicine.

AGE AND SEX

In this study male patient constituted 12 and female patient constituted 18. From this study the prevalence of dental caries is seen higher in female than male. Studies have shown that the prevalence of dental caries in children is higher among girls compared to boys[7]

FAMILY HISTORY

In this study 21 cases have positive family history and9 cases have no family history. Studies have proved that Some genetic abnormalities in early children may cause deficiencies in tooth enamel[44].A high DMF father and high DMF mother are seen to produce an offspring with high DMF rate[5].

AGGRAVATING FACTORS

In this study 8 cases has pain aggravated by taking cold foods, 6 cases has pain aggravated by taking hot foods,4 cases have pain aggravated by taking both hot foods, cold foods and sweets,3 cases have pain aggravated by taking sweets. 2 cases have pain aggravated by taking cold foods and sweets. 1 case have pain aggravated by taking hot foods and sweets, 6 cases have pain aggravated by cold foods and hot foods. The initial symptom of dental caries is sensitivity to sweet, cold or hot drinks[4]

BASED ON TOOTH AFFECTED

In this study 18 cases has lower first molar teeth is affected, 1 case has Lower central incisor teeth affected, 5cases has Lower first premolar teeth affected, 1 case has Lower second premolar affected. 1 case has Upper central incisor teeth affected, 2 cases has upper first molar teeth affected, 2 cases has upper second premolar teeth affected. Studies proved that molars are the most common tooth affected in dental caries[46].

FEATURE OF PAIN ASSESSED UNDER VISUAL ANALOGUE SCALE OF FACES BEFORE TREATMENT

In this study Very light pain (Score-1) has 5 cases, Light pain (score-2) has 3 cases, Moderate pain (Score-3) has 7 cases, Intense pain(Score-4) has 7 cases Excruciating pain(Score-5) has 8 cases. One of studies proved that the VASOF scores recorded shows the moderate rating (3) to be the most commonly given rating by the children, But in this study majority of the cases has recorded Excruciating pain (Score-5), because the only aim of the this study is to management of dental caries pain, so the cases selected were based on the severity of pain.

FEATURE OF PAIN ASSESSED UNDER VISUAL ANALOGUE SCALE OF FACES AFTER TREATMENT

In this study Very light pain (Score-1) has 21 cases, Light pain (score-2) has 0 cases, Moderate pain (Score-3) has 5 cases, Intense pain(Score-4) has 2 cases Excruciating pain(Score-5) has 2 cases. One of the studies proved that the VASOF scores recorded shows the very light pain after medication[32]

TIME TAKEN FOR THE IMPROVEMENT OF DENTAL CARIES PAIN AFTER MEDICINE

In this study 9 cases has improvement of pain with in 0-2 hours, 5 cases has improvement of pain after 2-4 hours, 4 cases has improvement of pain after 4-6 hours, 7 cases has improvement of pain after 6 hours, and 5 cases has no improvement.Dental problems like caries can be either tackled with homoeopathic medicines[39]. Usually pain felt better within 2 hours of medication. This Shows that homoeopathy is well suited for acute pain especially in the field of dentistry[40].

FREQUENTLY USED MEDICINE

In this study GRAPHITES was prescribed on 1 case, CHAMOMILLA was prescribed on 3 cases, KALI CARBONICUMwas prescribed on 1 case,BELLADONNA was prescribed on 2cases,LACHESIS was prescribed on 1case,STAPHYSAGIA was prescribed on 3 cases, ALUMINA was prescribed on 2 cases,BRYONIA was prescribed on 4 cases, PHOSPHORUS was prescribed on 1, MERCURIUS SOLUBILIS was prescribed on 2 cases ,KREOSOTUM was prescribed on 1 case, NATRUM CARBONICUM was prescribed on 3 cases, SILICEA was prescribed on 2 cases, AMMONIUM CARBONICUM was prescribed on 1 case, MEZERIUM was prescribed on 1 case and CARBOVEGETABLIS was prescribed on 2 cases.The homoeopathic point of view on fluoride is helpful in preventing caries[35]. But In this study based on the symptom similarity the medicine is selected.

OUTCOME RESULT

Among the cases 21 cases shown marked improvement, 3 cases shown moderate improvement, 1 cases shown mild improvement and 5 cases show no improvement.

7. LIMITATIONS AND RECOMMENDATIONS

LIMITATION

1. Number of samples used in this study is very small.
2. Selection of case was difficult because few children were cannot able to narrate the feature of pain.
3. Some good cases couldn't be considered in this study because of discontinue of treatment in between the study.
4. In some cases the children refuses to mention the symptoms.

RECOMMENDATIONS

1. Bigger sample size with extended times will provide good results.

8.CONCLUSION

This study was conducted to prove the effectiveness of homeopathic management in dental caries pain among 8-12 years school going children using Visual analogue scale of faces. With in the hours of medication the pain felt better , Pain is a controversial topic among children, especially in dental caries pain the patient cannot be able to pin point the affected tooth, this study proved the effectiveness of homeopathic medicine in dental caries pain among 8-12 yearsschoolgoingchildren. So one might wonder what! homoeopathy offers to dentistry. Further research studies such managing dental caries pain using homeopathic medicine should be done.

9.SUMMARY

This study was conducted in patient attending the Maria Homoeopathic medical college and hospital, between the age group 8-12 years of both sexes. This study aims to prove theeffectiveness of homeopathic management in dental caries pain among 8-12 years school going children using Visual analogue scale of faces. A random sampling of 30 cases were taken. After detailed case taking repertorisation was done with appropriate repertory for every case to find out similimum. From the evaluation of results obtained after statistical analysis it is obvious that there is improvement in dental caries pain after administrating appropriate remedy . In this study female patients were predominant, 21 cases has family history of dental caries, 9 cases have no family history. There was marked improvement in 21 cases, moderate improvement in 3 cases, mild improvement in 1 case and no improvement in 5 cases.

ETHICAL STATEMENT

The research was conducted in the best ethical manner where respondents consent was sought before obtaining the information from them. They were made to understand the information was for research purposes only and will be kept confidential and their identity will remain anonymous. Further more ethical clearance was sought from the institutional ethics committee of Maria homoeopathic medical college and hospital for the conduct of the research.

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Nandanwar2 , Aniket Hedaoo3 , Dr. Kumar Garuav Chhabra4 , Dr. Gargi Nimbulkar5 , Dr. SwapnilMohod
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