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# Evaluation of parent's knowledge, attitude and practices regarding self-medication for their children's dental problems during the covid -19 pandemic in south Bangalore - A cross sectional survey

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## Abstract

**Background:** This study aimed to assess the parents' knowledge, attitude, and practice towards self-medication for their children's dental problems during the COVID–19 pandemic in South Bangalore.

**Methods:** Parents of children aged 0-12 years who visited the Pediatric department for oral concerns were given a 20-item structured questionnaire to learn more about the parents' knowledge and views about the reasons for self-medicating their children, as well as to gauge their level of awareness. The data was then statistically evaluated using SPSS version 20 software. The Chi square test was used to determine whether the differences between variables were statistically significant. The level of significance was set to 5%.

**Results:** According to the research, 89.1% of parents self-medicated their children with dental problems during the pandemic in South Bangalore, with 67.8% of parents citing inaccessibility to dental treatment owing to the Covid 19 pandemic as the explanation.

**Conclusion:** Self-Medication was widely used by parents to treat dental problems in their children during the COVID-19 outbreak in South Bangalore, India, according to the current study. To avoid this spike in self-medication during the pandemic, it is critical to educate parents about Paediatric dosing and the hazards of self-medication, as well as to improve public awareness of alternate treatment options such as tele dentistry.

**Keywords:** COVID-19 pandemic, Self-Medication, Tele dentistry.

**Introduction**

The COVID-19 pandemic has had a significant impact in India and around the world[1]. The first wave of SARS-CoV-2 infection began in late January 2020 in India and lasted for around nine months. During this time, 0.157 million deaths were reported out of 11 million covid cases in India, with the biggest surge occurring in mid-September 2020. However, as compared to the subsequent second wave, which began in mid-February 2021 and expanded over the country, this was relatively light.[2,3]

During the initial phase of the pandemic, the Indian Council for Medical Research (ICMR), the Ministry of Health and Family Welfare, and the Government of India developed policies, standard operating procedures (SOPs), and guidelines based on those issued by international public health agencies such as the World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC) in the United States[4]. Various public policies have been formed in various countries, including the enactment of new laws, regulations, executive orders, local ordinances, and court judgements[5,6].

According to World Health Organization (WHO), Self-Medication (SM) is defined as the selection and utilization of medicines to treat self-recognized symptoms or ailments without consulting a physician[7]. This encompasses the irrational use of over-the-counter (OTC) pharmaceuticals, as well as the use or re-use of previously prescribed or unused drugs, direct prescription drug purchases without consultation, and the use or re-use of previously prescribed or unused drugs. Self-Medication is a common practice, according to many researches, impacting both developed and developing countries, with a prevalence of 32.5–81.5 percent worldwide[8]. Friends, family, neighbours, pharmacists, past prescriptions, and the media can all be sources of information for Self Medication[9].

The overall attitude and practice of parents in maintaining their child's oral hygiene was low during the covid 19 pandemic in India[10.] The lack of reporting for dental consultation was seen during the pandemic in which people avoided medical treatments due to fear of contracting COVID-19 which may increase the risk of serious health issues in the near future[11.] This cross-sectional study was conducted to determine the prevalence of Self-Medication practices among parents during the Covid -19 pandemic. The purpose of this study is to assess parental knowledge, attitudes, and practices regarding Self-Medication for their children among parents who applied to the Vokkaligara Sangha Dental College's Department of Pediatric dentistry with concerns about their children's dental problems during the COVID-19 pandemic in Southern Bangalore.

**Method and materials**

After the second wave of the COVID 19 pandemic, a cross-sectional survey of parents of Pediatric dental patients who were reported to the Department of Pediatric and preventive dentistry, Vokkaligara Sangha Dental College, Bangalore was conducted. From August 1, 2021, to December 1, 2021, data was collected via a

questionnaire from 81 parents of children aged 0 to 12, and the results were statistically analyzed

**Data collection**

The convenience sampling method was used. When 82 parents arrived at the Pediatric dentistry department for their children's dental visit, they were given a 20-item questionnaire. Only one parent declined to participate in this study, out of the total 81 parents who agreed to take part.

- **Inclusion criteria:** Parents with children aged 0–12 years old who applied to the Pediatric Department for dental concerns and gave consent were included in the study. (A total of 81 parents volunteered to take part in the study.)
- **Exclusion criteria:** Parents of children aged 0–12 years who sought treatment at the Pediatric Department for dental disorders but didn't give consent was excluded. (Only one parent declined to participate in the study)

Questions from earlier surveys were adapted to create the questionnaire which was send to the parents as GOOGLE forms via WhatsApp. The first section of questionnaire included the questions regarding sociodemographic information such as the age of the parents, their level of education, the age of the children, and the medical history of the children.

Parents' thoughts about Self-Medication for their children's dental problems were gathered in the second section of questionnaire as follows: The frequency of Self-Medication for their children's dental problems was collected using a yes or no response choice. Other items were collected using multiple-choice questions, and we assessed the types of dental diseases for which Self-Medication was used; groups of medicines used by parents for their children, such as antibiotics and analgesics; types of medical data sources; methods of obtaining medicines; knowledge of adverse reactions to medicines; time frame of medicine use; and reasons for Self-Medication.

**Statistical analysis**

The data were statistically analyzed using SPSS software version 20 (IBM SPASS statistics). Descriptive analyses were performed for demographic data. Chi square test was used for testing the statistically significant differences between variables. Level of significance is set at 5%.

**Results**

During the study period, a total of 81 subjects completed the questionnaire. The bulk of the parents (n = 50; 61.7%) were in the 25–30-year-old range. Furthermore, the majority of parents had at least a secondary education degree, and the majority of the parents (n=44, 54.3 percent) had a university degree. Only a small percentage of the participants (n =23; 28.4%) lived in rural areas. A review of the children's medical histories revealed that a small percentage of the children (n = 3; 3.3%) had chronic conditions, and that a tiny percentage of these children with chronic diseases (n = 1; 1.2%) consumed medicine on a regular basis.

No significant difference in self-medication practices are seen among parental educational levels. During the COVID-19 pandemic, a large percentage of parents (n =72; 89.1%) self-medicated their children when they had dental ailments. Out of which only 20 (24.6%) of the parents exercised Self-Medication using the drugs obtained with previous prescriptions, and 6 (7.4%) used medicines obtained from a pharmacy without prescriptions.

Analgesics (n = 59; 72.8 percent) are the drugs which are mostly used by the parents in the study. Table 1 illustrates the drug groups that the parents used for their children as per the current study. Some parents (n = 29;

35.8%) believed that medicine may be stopped once symptoms disappeared, whereas others (n = 29; 35.8%) believed that treatment should be continued as prescribed by the doctor or dentist. Table 2 illustrates the belief of parents about the side effects of drugs as per the study.

The main reason for self-medication, according to the parents who used it, was the difficulty in getting a dental consultation due to the COVID-19 pandemic (n = 55; 67.8%). Table 3 illustrates the reason for the Self-Medication practices in children during the pandemic as per the current study. 59 percent employed Self-Medication for their children's toothache. 7.4 percent of parents obtained medication from a pharmacy without a doctor's prescription, while 6.1 percent received advice from family members. Graph 1 shows the various methods by which the parents obtained medicines for self-medication and graph 2 shows the parent's awareness regarding self-medication practices in their children.

**Discussion**

During the Covid 19 pandemic, 89.1% of parents self-medicate their children for dental problems, according to the findings of this study. This prevalence is substantially higher than the 61 percent reported by Amritha Nayyar et al in Dharwad and Bangalore before the covid-19 pandemic in children [12] and the 70 percent reported by Emine Sen Tunc et al in Turkey during the covid-19 pandemic [13]. This higher occurrence of Self-Medication practices could be attributed to the COVID-19 pandemic's restrictions on dental treatment.

The current study's findings reveal that toothache was the most common cause of self-medication among parents (55.5%), which is comparable with Ankita Jain et al' s findings on adults who self-medicate (55.6%) in Uttar Pradesh, India[14]. Furthermore, previous studies has found that analgesics are the most widely used drug class for self-medication[12,13,14], which is in line with our findings. The extensive usage of analgesics may be attributed to their accessibility and low cost. Furthermore, when compared to other medicines, parents may believe that they are less harmful to children or are not as dangerous.

In the current study, 46.9% of parents who practiced Self-Medication purchased medicines based on past prescriptions, 12.3% bought medicines based on advice from friends and relatives, and just 3.7 percent bought medicines influenced by advertisements or the internet. Some parents (n = 30; 37%) believed that medication could be stopped once the symptoms had gone away, while others (n = 29; 35.8%) gave medications according to the instructions on the pharmaceutical packaging, and others (n = 6; 7.4%) gave medicines based on their past experience. We also wanted to see if parents are aware of the possible side effects that may arise during treatment with various medications, and we observed that 17.2% of parents feel that medications are risk-free and non-toxic.

The proportion of parents who self-medicate their children was lower among basic education graduates than among parents with other educational levels in the current study, but there was no significant difference in self-medication by parental educational level and also no significant difference was seen in association with demographic characteristics.

Self-Medication is part of a larger self-care process that encourages people to engage in activities such as health improvement, sickness treatment, disease prevention, and health restoration after an injury or disease [15]. The disadvantages of improper and unneeded Self-Medication, on the other hand, cannot be overstated, since Self-Medication can result in polypharmacy,

inaccurate diagnosis, unpleasant effects, drug interactions, antibiotic resistance, and higher drug costs[16,17,18.] Self-Medication could exacerbate the current predicament of a health disaster for which no country is entirely prepared[19.] To the best of our knowledge there is no published literature on Self-Medication practices by parents in children for dental issues in South Bangalore during the COVID-19 epidemic.

The prevalence of Self-Medication is influenced by a variety of factors, including educational attainment, socioeconomic status, and health-care access. Patients' access to healthcare practitioners has become extremely difficult as a result of COVID-19, which is expected to increase the practice of Self-Medication, which is recognized as a major health concern around the world. In previous investigations, the prevalence of Self-Medication practices in India was found to be 53.57 percent[14]. The current study showed that the parents of children in South Bangalore had a high prevalence in practicing Self-Medication (89.1%) among parents for their child's dental problems during the COVID pandemic.

The major goal in today's situation of a continuous COVID-19 pandemic, with the possibility of it becoming endemic, is to avoid person-to-person contact. Tele dentistry satisfies the need for social distance, which has been advised by health authorities all over the world to contain the spread of the SARS-COV-2 virus. Tele dentistry has a wide range of uses, including remote triaging of suspected COVID-19 patients for dental care and reducing the unnecessary exposure of healthy or uninfected patients by reducing their visits to the already overburdened dental offices and hospitals [19].

Tele dentistry can offer a novel solution to resume dental practice during the current pandemic, hence, the need of the hour is to incorporate tele dentistry into routine dental practice. If not fully replace, at least tele dentistry can complement the existing compromised dental system during the current pandemic.[19] And also we suggest that medication outlets, media and community should be engaged to support the rational use of medication for the prevention of increased use of self-medication during the Covid 19 pandemic.

Tele dentistry can provide an innovative alternative for resuming dental practice during the present epidemic, hence incorporating tele dentistry into routine dental practice is a pressing requirement. Tele dentistry can supplement the existing weakened dental system during the present epidemic, if not completely replace it[19]. We also believe that medicine outlets, the media, and the community should be involved in promoting sensible medication usage in order to prevent increased self-medication during the Covid 19 pandemic.

Table 1: drug groups which the parents used for their child's dental problem during covid 19 pandemic

| Drug groups | Frequency | Percent |
|---|---|---|
| Analgesic | 59 | 72.8 |
| Antibiotics | 6 | 7.4 |
| Dental gels | 1 | 1.2 |
| Herbal medicine | 7 | 8.6 |
| Mouthwash | 1 | 1.2 |
| Not applicable | 7 | 8.6 |
| Total | 81 | 100.0 |

Table 2: parents beliefs about the common adverse reaction(s) of various drugs.

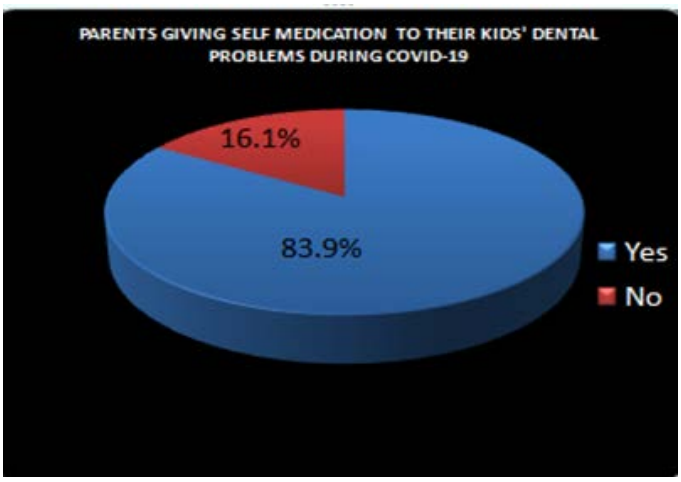
| **Adverse reactions** | **Frequency** | **Percent** |
|---|---|---|
| Allergic reactions | 12 | 14.8 |
| Diarrhoea | 28 | 34.5 |
| Fever | 3 | 3.7 |
| Headache | 2 | 2.5 |
| Kidney problems | 9 | 11.1 |

| | | |
|---|---|---|
| Liver problems | 14 | 17.3 |
| Nausea-vomiting | 3 | 3.7 |
| No side effects | 8 | 9.9 |
| Stomach pain | 2 | 2.4 |
| Total | 21 | 100.0 |

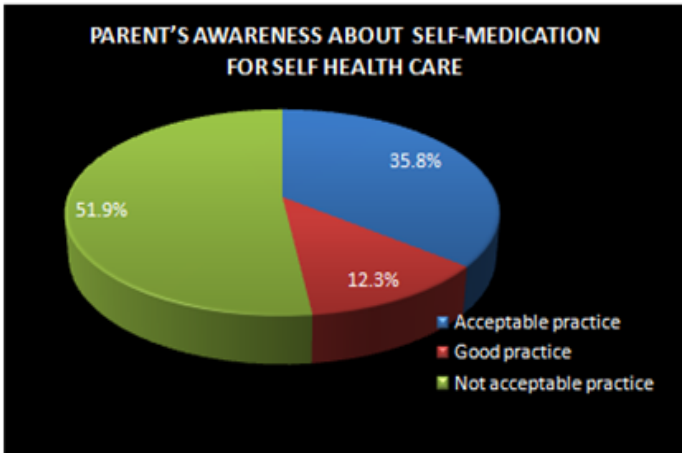
Table 3: reason(s) of parents for self-medication for their child in dental problems during covid 19 pandemic

| Reasons | Frequency | Percent |
|---|---|---|
| Cost-saving | 4 | 4.9 |
| COVID-19 pandemic | 55 | 67.8 |
| Lack of time | 3 | 3.7 |
| No doctor's or dentist's consultation needed | 6 | 7.4 |
| Not applicable | 13 | 16.0 |
| Total | 81 | 100.0 |

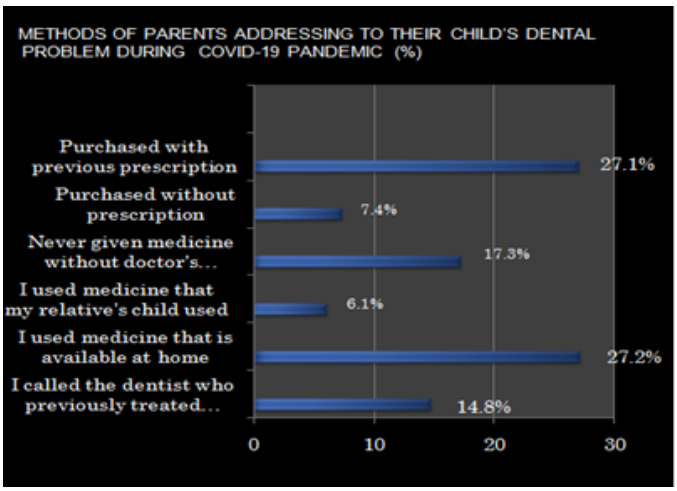
Graph 1:




Graph 2:




Graph 3:




**Conclusion**

Self-medication has its own set of benefits and drawbacks. Self-medication that isn't done properly can result in a misdiagnosis, major side effects, drug interactions, drug habit, and microorganism resistance. Self-Medication was widely used by parents to treat dental problems in their children during the covid 19 outbreak in South Bangalore, India, according to the current study. To prevent this rise in self-medication, it's critical to educate parents about paediatric dosage and the risks of self-medication, as well as to control and manage appropriate Self-Medication practices through strong legislation involving healthcare professionals and policymakers, and to incorporate tele dentistry into dental practice. Paediatric dentists can help raise awareness and discourage bad habits among their patients' parents.

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