

How to Cite:

Padmavathi, S., Anuradha, G., Kannan, A., Krithika, C. L., & Aniyani, Y. (2022). Assessment of dental problems faced by adult population during lockdown: A questionnaire study. *International Journal of Health Sciences*, 6(S2), 2636–2643. <https://doi.org/10.53730/ijhs.v6nS2.5787>

Assessment of dental problems faced by adult population during lockdown: A questionnaire study

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Abstract---People have always coped with their dental issues on their own until they have an exacerbation of the symptoms. During this pandemic, there had people suffering from various dental issues, yet they have either overlooked or coped with these issues on their own. There are cases reported of harmful effects of improper use of home remedies and the hazardous effect of over-the-counter medications. Hence, this survey concentrates on the various dental problems they have faced and how they overcame them during this pandemic. Coping up with dental problems during the pandemic patient's perspective-a questionnaire study. This questionnaire study was conducted in our department with a total sample size n = 805 with only the residents of Chennai with an open-ended questionnaire containing 21 questions. All the patients who walked into the department were included in the study based on the inclusion criteria such as age above 18 years, willingness to participate, faced any dental issues during the lockdown, there was a time lag between their

issue and the treatment and all the answers were digitalised and sent for statistical analysis. The results of the study emit, out of 2042 patients 805 had self-medicated them, among them 50.7% of females and 49.1% of males had self-medicated them with either OCM or HR. The mean age is 40.01years and still, 38% of participants think it is safe to use the OCM or Home remedies. Even though we are in a digitalized world, promoting Tele-dentistry is the need of the hour along with more dental campaigns are needed.

Keywords---COVID-19, dental problems, over-counter-medications, home remedies, teledentistry.

Introduction

The word Pandemic can be easily said to be one of the most used words in recent times after the outbreak of the novel coronavirus, COVID-19A pandemic is an outbreak that spreads over international borders, frequently impacting individuals all over the world. An illness or ailment that is widespread or kills a large number of people is not a pandemic; it must be contagious. Coronaviruses (CoV) are a broad group of viruses that cause diseases ranging from the common cold to more serious conditions like Middle Eastern Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS) (SARS-CoV). Coronaviruses get their name from the crown-like spikes that cover their surfaces. Coronaviruses are divided into four categories: alpha, beta, gamma, and delta. People have always coped with their dental issues on their own with self-medications and other remedies until they have an exacerbation of the symptoms when they approach a dentist. During this pandemic, some people suffered from various dental issues, yet they have either overlooked or coped with these issues on their own. This pandemic and lockdown have pushed people into the pit of over-the-counter medications and some harmful home remedies. There are cases reported of harmful effects of improper use of home remedies and the hazardous effect of over-the-counter medications. Hence, this survey concentrates on the various dental problems they have faced, not just pain yet about ulcerations, burning sensations, etc., and how they overcame them during this pandemic.

Materials and Methods

The following study was conducted in the teaching block of the Department of Oral Medicine and Radiology in the dental college, this study was approved by the Institute's ethical board committee (SRMU/M&HS/SRMDC/2021/PG/004). The sample size was calculated using G*power with a 95%CI. The final sample size was obtained as 805. An open-ended questionnaire was formulated with three parts namely Part A, B and C. Part-A consisted of the Name, age, sex, profession, address and contact number of the patient this was collected to stratify them based on this basic information regarding gender and area of the results, Part-B consisted of the dental issues, not just pain but also other symptoms like ulceration, burning sensation, dryness of mouth, broken dentures or prosthetics, ulcerations due to orthodontic appliances, halitosis, deposition of plaque, intra or extraoral swelling, bleeding gums, pus discharge, etc., faced by them during the

lockdowns and the final Part-C carried how they had coped with issues on their before approaching a dentist by either self-medicated themselves with over the counter medication or home remedies, also who had prescribed or advised them like was it on their own from internet or newspapers, family, friends, and chemist. The questions which were framed were open-ended questions and the principal investigator had interviewed them in person. The inclusion criteria were 1) Age above 18 years, 2) Willingness to participate, 3) They had faced any dental issues during the lockdowns, 4) Time lag between their issue and visiting a dentist. The exclusion criteria were age below 18 years old and 2) Not in a sound state of mind to answer the questions.

Results

Among the 805 individuals included in the study, 396 were males, 407 were females and 2 were transgender (Graph 1). Higher individuals of the central region participated in the study with 38% followed by the north with 32.4%. Table 1 shows the questionnaire based on over-the-counter doses according to the region of the study participants. A higher number of individuals self-medicated themselves in the central region with 60.1% than in the other region. But the individuals had only temporary relief with the medication and had no side effects in the maximum number of individuals in all three regions. The maximum number of individuals had the medication suggested by the pharmacist. P-value <0.05 is considered to be statistically significant. While assessing no statistical difference was seen in all the questions except for the question asked on who suggested the medication has a statistically significant difference among the three regions. Table 1 shows the questionnaire based on home remedies according to the region of the study participants. A higher number of individuals in all the three regions had not tried any home remedy for cure which was reported north region (72.8%), central (46.4%) and south region (46.2%). Statistically, a significant difference was reported among the different regions for this question. Higher individuals had only temporary relief from the home remedy and side effects were reported only during the self-decision for both the questions statistically significant difference was obtained. Table 2 shows the questionnaire based on over-the-counter doses according to the gender of the study participants. A higher number of individuals self-medicated themselves in females 61.7% than in the other region. But the individuals had only temporary relief with the medication and had no side effects in the maximum number of individuals in all three regions. The maximum number of individuals had the medication suggested by the pharmacist. P-value <0.05 is considered to be statistically significant. While assessing no statistical difference was seen in all the questions except for the question asked on who suggested the medication has a statistically significant difference in the gender distribution. Table 2 shows the questionnaire based on home remedies according to the gender of the study participants. A higher number of individuals in all the gender distribution had not tried any home remedy for cure which was reported males (58.1%), females (50.4%) and (50.0%). Higher individuals had only temporary relief from the home remedy and side effects were reported only during the self-decision for both the questions statistically significant difference was obtained. Statistically, the insignificant difference was reported for all questions among the gender distribution.

Discussion

Chennai is the capital of Tamil Nadu, an Indian state. Chennai, the state's largest metropolis in terms of both land and population, is located on the Bay of Bengal's Coromandel Coast and is South India's most important cultural, economic, and educational centre. Chennai, the historic and de facto gateway to South India are one of India's most popular tourist destinations. In the year 2015, it was ranked 43rd most visited city in the world, and in the year 2019, it was ranked 36th most visited city in the world. In the Quality of Living Survey, Chennai was named the safest city in India. Chennai is home to 45 per cent of all Indian health tourists and 30 to 40 per cent of domestic health tourists. As a result, it is known as "India's health capital." Our study was conducted in one such eminent city to assess the dental problems faced by the adult population in Chennai during the lockdown and how they had overcome their problems. There were a total of 2042 patients were selected randomly from the outpatient department for the study and 805 patients who were abiding by the inclusion criteria of the study, that is 39.4 per cent of patients had used either over the counter medication or home remedies to alleviate their pain during the lockdown.

The dental problems faced by the population apart from pain were burning sensation, ulcerations, dryness, mobile tooth, impinging orthodontics appliances or prosthetics, broken prosthetics, etc. The age group in our survey ranged from 19 to 68 years, and the mean age group of the participants was 40.01 years, indicating that middle-aged group participants were majorly involved in the practice of self-medication. This finding complied with the study by Surenthar *et.al.*, 2021 and Ritu *et al.* 2011. This study detected an association between gender and self-medication, where females were more likely to indulge which is consistent with the previous studies by Afolabi *et al.*, in 2008. This might probably be because they have a lower threshold for pain tolerance from their hormonal build.

There was a significant difference between the area or the locality of participants who had used self-medication and home remedies. To understand which population had used the more of these practices, Chennai was divided into three parts such as north, south and central Chennai according to the constitutional dividend, which resulted in central Chennai having the most usage followed by southern Chennai. To our knowledge, this is the first study to assess the patients who had used self-medication and over the counter medication according to their locality. Pain (94.3%) was the most common cause of self-medication without the prescription of a dentist among our respondents. Pain killers were the most commonly used drug (94.3%) among the study respondents, and both pain killers and antibiotics are used by 17.3% of respondents.

The most commonly used over counter medications are Paracetamol and Aceclofenac Sodium for pain and in antibiotics it was Amoxicillin. Even though our participants did not have any immediate side effects from over the counter medications, there are chances of a patient suffering from Idiosyncratic drug reactions could have occurred. Adverse drug reactions that occur in a small population of participants and have no evident relationship to dose or length of therapy are referred to as "drug idiosyncrasy"^[7]. Antibiotic resistance is one of the

most difficult challenges with the indiscriminate use of antibiotics without any standards, and the liver is a common target for toxicity. Pharmacists were the most common source of self-medication among the respondents.

In-home remedies the most commonly used mentioned in descending order were either whole cloves or clove oil, salt, garlic, snuff powder, mint and pain balm. A severe chemical burn was developed by one of our study participants who had applied a topical pain balm and suffered from severe pain and swelling on the left side of the face due to multiple root stumps in the second quadrant (Fig.1). Also, another participant had suffered from chemical burns due to rubbing of salt in the intraoral swelling(Fig2,). These patients were educated about the risks and side effects of both, 38 per cent of the participants still think it's safe to use over counter medications and home remedies.

Though we had achieved a statistical difference in gender and area-wise distribution of the usage, multi-centric with wider samples is needed to assess the association of the status of patients' mindset on these harmful over the counter medication and home remedies. There is one more step to be done for the completion of the study is to reassess the patients with the same inclusion and exclusion criteria but without lockdown, as inclusion criteria, this might help us to conclude the true nature of the patient's mindset.

Conclusion

Even though we travel towards digital India, we should digitally advance evenly in all the sectors. It will not be a digital India only when our rocket sciences and research for cancer or other deadly diseases progress but also when a layman can reach out to his/her doctors easily. Though telemedicine has gained much acknowledgement in these lockdowns, Tele-dentistry is still in its baby steps. Deborah Sybil et.al (2021) study concluded that people were patients are aware of and willing to accept, newer methods of dental consultation, such as Tele-dentistry and mobile dental apps. During the period of extended lockdown, existing mobile dental applications could have been used to address routine dental care for patients. Alessandro Villa et al (2021) stated in a Letter to the Editor that their department had started a tele(oral)medicine, also the national government has exempted penalties for HIPAA violations for clinicians who continue to see patients in good faith via video consultations using apps like Apple FaceTime, Facebook Messenger video chat, Google Hangouts video, Skype, or Zoom. (Notice of Enforcement Discretion for Telehealth Remote Communications During COVID-19 National Public Health Emergency, 2020). Hence, Tele-dentistry or per se Tele(oral)medicine is the need of the hour.

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Table 1: Questionnaire-based on over-the-counter dose and home remedy according to region of the study participants

QUESTIONNAIRE	OPTIONS	NORTH REGION (N-239)		CENTRAL REGION (N-306)		SOUTH REGION (N-260)		P-VALUE	
		PERCENTAGE - HM	PERCENTAGE - OCM	PERCENTAGE - HM	PERCENTAGE - OCM	PERCENTAGE - HM	PERCENTAGE - OCM	OCM	HM
DID YOU SELF MEDICATION YOURSELF	YES	15.9	58.6	33.0	60.1	50.0	58.1	0.018*	0.021*
	NO	72.8	24.3	46.4	23.2	50.0	21.5		
	BOTH	11.3	17.2	20.6	16.7	0	20.4		
DID YOU HAVE	YES	43.9	51.5	39.2	55.9	50.0	54.2	0.053	0.05

ANY RELIEF	NO	56.1	48.5	60.8	44.1	50.0	45.8		3
DID THE MEDICATION GIVE YOU PERMANENT RELIEF	PERMANENT	25.5	6.7	22.9	9.2	50.0	9.2	0.056	0.034*
	TEMPORARY	74.5	93.3	77.1	90.8	50.0	90.8		
DID YOU HAVE ANY SIDE EFFECTS DUE TO SELF MEDICATION	YES	9.6	16.3	24.8	16.3	50.0	16.9	0.063	0.075
	NO	90.4	83.7	75.2	83.7	50.0	83.1		
UNDER WHO'S SUGGESTION YOU HAD SELF MEDICATION YOURSELF	SELF	72.0	20.1	67.6	16.3	50.0	23.1	0.081	0.027*
	FAMILY	28.0	24.3	32.4	24.2	50.0	26.2		
	PHARM	0	55.6	0	59.5	0	50.8		

Table 2: Questionnaire based on over-the-counter dose and home remedies according to gender of the study participants

QUESTIONNAIRE	OPTIONS	MALES (n = 396)		FEMALES (n = 407)		TRANSGENDER (n = 2)		P-VALUE	
		PERCENTAGE - HM	PERCENTAGE - OCM	PERCENTAGE - HM	PERCENTAGE - OCM	PERCENTAGE - HM	PERCENTAGE - OCM	OCM	HM
DID YOU SELF MEDICATION YOURSELF	YES	27.3	56.3	28.3	61.7	32.7	50.0	0.091	0.329
	NO	58.1	24.2	50.4	21.6	46.2	50.0		
	BOTH	14.6	19.4	21.4	16.7	21.2	0		
DID YOU HAVE ANY RELIEF	YES	44.4	56.1	40.0	52.3	44.2	0	0.096	0.052
	NO	55.6	43.9	60.0	47.7	55.8	100.0		
DID THE MEDICATION GIVE YOU PERMANENT RELIEF	PERMANENT	22.0	10.4	23.8	6.6	20.8	0	0.182	0.079
	TEMPORARY	78.0	89.6	76.2	93.4	79.2	100.0		
DID YOU HAVE ANY SIDE EFFECTS DUE TO SELF MEDICATION	YES	18.4	18.7	19.7	14.3	21.2	50.0	0.128	0.142
	NO	81.6	81.3	80.3	85.7	78.8	50.0		
UNDER WHO'S SUGGESTION YOU HAD SELF MEDICATION YOURSELF	SELF	69.2	20.7	68.3	18.7	66.9	0	0.038*	0.321
	FAMILY	30.8	22.5	31.7	27.0	33.1	50.0		
	PHARM	0	56.8	0	54.3	0	50.0		

Graph 1: Based on region

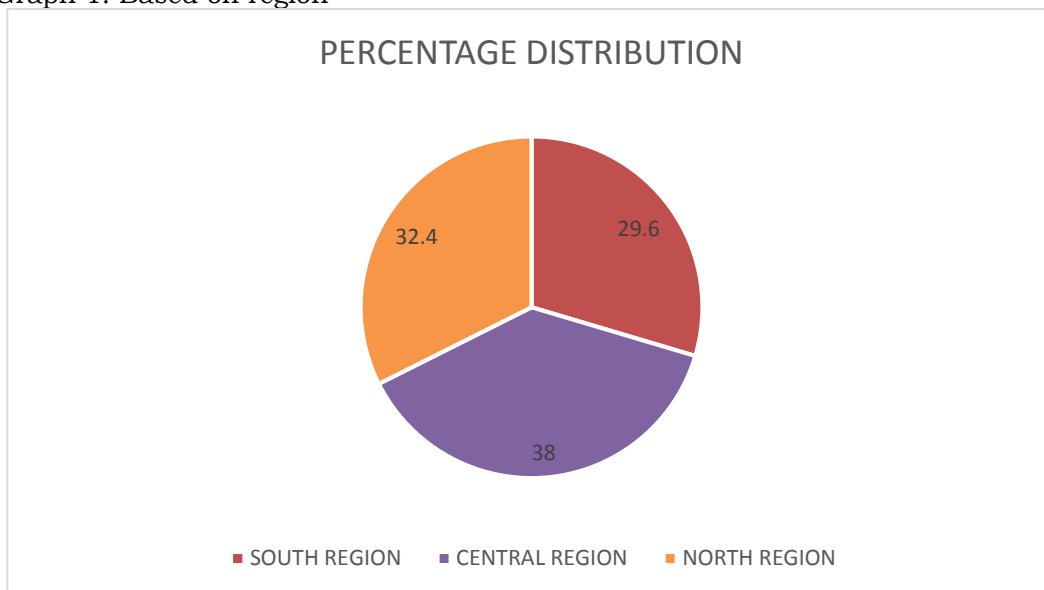


FIG.1: A case of severe chemical burn in a 68-year-old female patient who applied pain balm (amrutanjan) to relieve dental pain.



FIG 2: Rock salt rubbed on the intraoral swelling causing ulcerations