Original Article

Abuse of Self-medication for Orodental Problems among Populace in Rural Areas of Central India

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Abstract

Context: The practice of self-medication has been recognized since ages. There has been enough literature available regarding it being there for medical illnesses; however, there is a relative dearth of information about it being there for orodental causes. The present study was planned to determine the abuse of self-medication for orodental causes and the reasons for resorting to it. **Materials and Methods:** The present study was conducted in rural areas of Central India with 230 consenting participants selected by random sampling and interviewed with the aid of an 18-point, closed-ended question-based, semi-structured questionnaire. **Results:** Nearly 63.59% of the participants admitted they had resorted to self-medication without any consultation. Odontalgia was the most common reason, for which people resorted to self-medication (57.69%). Seventy percent of the participants did not have the knowledge about the dose, duration, adverse drug reactions, and interactions of drugs with other drugs they had been using. Paracetamol was the most commonly abused drug for self-medication. **Conclusion:** Analgesics were the most common drugs abused for self-medication. Adequate health education of the populace was found mandatory to make people aware of the use and misuse of drugs and regarding the potential adverse effects and drug interactions they might have led to, especially, when used repeatedly or on a chronic basis. Furthermore, dental health-care services were supposed to be made more readily available and affordable so that self-medication among populace in rural areas could be checked effectively.

Keywords: Orodental illnesses, rural populace, self-medication

Introduction

Health-seeking behavior is a typical response seen in individuals in the presence of illnesses, especially, when pain is the attending feature.[1] Self-medication is an age-old practice. Urge of self-care, feeling of sympathy toward family members and individuals known, in sickness, lack of adequate infrastructure for optimal health-care services, poverty, ignorance, misbelieves, extensive information available from various sources regarding drugs with intentional portray of their being miraculously effective in specific illnesses in the media as marketing strategies without highlighting their adverse effects and other possible interactions, and their easy accessibility are the main factors responsible for the ever-rising trend of self-medication.[2] In developing countries like India, easy availability of a wide range of drugs coupled with inadequate health services results in an increased proportion of drugs being abused as self-medication.[3] Self-medication is the treatment of common illnesses with drugs which are approved as being safe and effective for use but without medical supervision. The drugs for self-medication are popularly called as nonprescription or over-the-counter drugs. Indeed, the role of self-medication cannot be completely denied in the existing health-care scenario where the doctor-population ratio according to the WHO guidelines is still too less; however, it has been commonly observed that drugs normally used as self-medication are most commonly abused and lead to associated adverse effects on repeated and long-term unintentional usage to cure an illness symptomatically. The easy accessibility to the commonly abused drugs, further, adds to this problem. The problem is more severe in the rural backdrop where the market freely supplies even the

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prescription drugs which are supposed to be taken under strict medical supervision due to a lack of strict implementation of regulations and monitoring by drug regulatory authorities. The reuse of left-over drugs for curing similar illnesses in the future, if need arises and a reckless discontinuation of the drugs after getting symptomatic relief are other significant reasons for the abuse of self-medication.[4] Despite the growing research interest in self-medication, little information has been available about its major determinants, especially, in developing countries like India. In a country like India, most of the country's population lives in villages and paradoxically, most of the country's doctors reside in urban areas. Odontalgia is a painful condition which is frequently associated with self-medication with commonly available analgesics. Many patients present to the dental clinics, also, for treatment but before seeking treatment, most of these patients are seen to have resorted to repeated abuse of self-medication with nonprescription analgesics (NPAs) and some unintentionally overdose, too, in lure of getting immediate relief or in case symptoms exceed. The practice of self-medication has been extensively researched, but there is a relative dearth of information about its modality for orodental causes. The present study was, therefore, planned to determine the abuse of self-medication for orodental causes and the reasons for resorting to it. The objectives of the present study were to assess the abuse of self-medication, to evaluate awareness about self-medication, and to evaluate the risk factors associated with self-medication in the rural populace of Central India.

Materials and Methods

Source of Data: The study was conducted among 230 permanent residents aged 21–60 years from selected villages. The study protocol was approved from the Institutional Ethics Committee. The participants were explained about the study and a written informed consent was obtained from them. They were interviewed, and the information obtained was entered in an 18-point, closed-ended question-based, semi-structured questionnaire.

Area and population under study

Ten villages having similar sociodemographic profile were randomly selected in the area.

Method and collection of data

Each village was divided into four zones from the center of the village. A house-to-house survey was conducted in the area and continued till a sample of approximately 23 was obtained in each zone. The same procedure was repeated for every zone and every village till a final sample size of 230 was obtained. The participants were aged between 21 and 60 years including both male and female participants and the ones who were willing to participate in the study were only included in the study whereas the participants who were not willing to participate in the study and the ones who were unable to provide an accurate history were excluded from the study. the study was carried out over a period of 90 days.

Conduct of pilot study

The questionnaire was tested through a pilot study among ten participants belonging to rural populace. The participants were asked for feedback on the clarity of the questions and whether it was difficult for them to understand and answer the questions or any other kind of ambiguity as to what sort of answers were required as faced by them. The suggestions were reviewed and incorporated accordingly while few questions were modified, also.

Implementation of the survey

On the day the survey was started, in the selected zone, every house was visited till the required sample size was achieved. On reaching the house, all the family members who met the inclusion criteria were gathered and the purpose of the survey was explained to them in the regional language which they could understand clearly. The scheduled method of data recording was followed for each participant individually where the investigator asked the questions and also gave the options as given in the pro forma and ticked the answers as told by the participants.

Statistical analysis

Statistical analysis was done using SPSS version 14: SPSS Inc., 233 South Wackier Drive, 11th Floor, Chicago, USA. The frequency distributions and percentages were examined for each answer.

Results

Among the 230 participants, 51.3% of the participants were males whereas 48.7% were females. Furthermore, 40% of the participants were illiterate, 8.1% (n = 19) were from primary school, 5.6% (n = 13) from middle school, 15.65% (n = 36) from high school, 18.69% (n = 43) in Pre-University College whereas 11.96% (n = 27) were graduates and above. In these, 63.91% of the participants experienced orodental problems whereas 36.09% did not have any such complaint [Table 1] Among these, 42.17% of the participants visited the dental surgeon for such complaints whereas 57.83% had not visited any dental surgeon [Table 2]. In fact, 21.76% of the participants were seen visiting the family physician for

Table 1: Participants who had experienced orodental problems

	Percentage of participants (*n*)
Experienced orodental problems	63.91 (147)
Did not have any such complaint	36.09 (83)

Table 2: Participants who visited the dental surgeon for orodental problems

	Percentage of participants (*n*)
Visited dental surgeon	42.17 (62)
Did not visit dental surgeon	57.83 (85)

orodental complaints whereas 78.24% had not even visited the family physician [Table 3]. Revealing the awareness about such complaints and their possible treatment, 70.74% of the participants had taken drugs for the same whereas 12.25% had not taken any treatment for their complaints [Table 4]. To add to the problem, 33.33% of the participants had taken drugs without prescription whereas 44.21% had followed old prescriptions and 20.40% had followed prescriptions of family members or friends [Table 5]. For the cure of orodental complaints following the persistent modes of medications, 30.27% of the participants had used balm, 28.95% used clove, 15.78% used eucalyptus oil and camphor whereas 25% used lime, jaggery, coal, tobacco, salt, and salt and oil as home remedies for the same [Table 6]. Majority of the participants had taken medications for toothache (57.69%), followed by tooth mobility (19.23%), tooth decay (14.42%), swelling and/or, ulcer (8.65%), and both toothache and tooth mobility (8.65%) whereas some were reported to have more than two complaints simultaneously (18.26%) [Table 7]. To further complicate the situation without having a clear idea regarding the possible consequences of the same, 59.61% of the participants had stopped using their medications after relief of the acute complaint whereas 40.39% of the participants continued with the medication even after relief of the complaint, for which they were using the medication [Table 8]. Explaining the awareness regarding the common adverse drug reactions and the possible interactions these drugs might have with the other drugs they had been using, 30% of the participants had knowledge about the dose, duration, side effects, and the possible drug interactions of the drugs in use whereas 70% of the participants did not have such kind of a knowledge about the drugs they were using or had used [Table 9]. To conclude for the persisting problem, 38.04% of the participants did not remember the name of the drug they were using or had used, whereas among the 61.95% participants who remembered name of drug, paracetamol was the most commonly used drug accounting for 22.80%, followed by crocin (19.29%), Imol (21.05%), Nimsee (8.77%), Brufen (5.26%), Disprin (5.26%), Vicks action 500 (7.01%), diclomol (5.26%), Bruzen MR (3.50%), and Duoflam (1.75%) [Table 10]. The common source of information about the drugs used commonly included the doctors (37.41%), pharmacist/medical drug store person (40.81%), friends (10.20%), family members (14.96%), and television (3.40%) [Table 11]. Unavailability of dental surgeons (19.04%) followed by loosening of teeth and weakening of the eyesight (18.36%) were the main reasons for indulging in self-medication [Table 12].

Table 3: Participants who visited the family physician for orodental problems

	Percentage of participants (*n*)
Visited family physician	21.76 (32)
Did not even visit family physician	78.24 (115)

Table 4: Types of medications taken for orodental problems

	Percentage of participants (*n*)
Taken drugs	70.74 (104)
Usual toothpastes	12.25 (18)
Toothpowders	4.76 (7)
Did not take any treatment	12.25 (18)

Table 5: Participants who had taken drugs without prescription

	Percentage of participants (*n*)
Taken drugs without prescription	33.33 (49)
Followed old prescriptions	44.21 (65)
Followed prescriptions of family members or friends	20.40 (30)

Table 6: Participants who had used home remedies for orodental problems

	Percentage of participants (*n*)
Had used home remedies	51.70 (76)
Balm	30.27 (23)
Clove	28.95 (22)
Eucalyptus oil, camphor	15.78 (12)
Lime, jaggery, coal, tobacco, salt, salt and oil	25 (19)

Table 7: Complaints for which medications were taken

	Percentage of participants (*n*)
Toothache	57.69 (60)
Tooth mobility	19.23 (20)
Tooth decay	14.42 (15)
Swelling and/or ulcer	8.65 (9)
Both toothache and tooth mobility	8.65 (9)
Reportedly had >2 complaints simultaneously	18.26 (19)

Discussion

Odontalgia is a painful condition which is frequently associated with self-medication with commonly available analgesics. Many patients present to the dental clinics, also, for treatment but before seeking treatment, most of these patients are seen to have resorted to repeated abuse of self-medication with NPAs and some unintentionally overdose, too, in lure of getting immediate relief or in case symptoms exceed. The practice of self-medication has been extensively researched, but there is a relative dearth of information about its modality for orodental causes. The present study was, therefore, planned to determine the abuse of self-medication for oro-dental causes and the reasons for resorting to it. The objectives of the present study were to assess the abuse of self-medication, to evaluate awareness about self–medication, and to evaluate the risk factors associated with self-medication in the rural populace

Table 8: Either the medications were continued or stopped after relief of the acute complaint by the participants

	Percentage of participants (*n*)
Stopped	59.61 (62)
Continued	40.39 (42)

Table 9: Participants who had knowledge about dose, duration, side effects, and possible drug interactions of the drugs in use

	Percentage of participants (*n*)
Had knowledge	30 (69)
Did not have the basic idea	70 (161)

Table 10: Commonly used drugs for self-medication in the past 1 year

	Percentage of participants (*n*)
Did not remember name of drug	38.04 (35)
Remembered name of drug	61.95 (57)
Paracetamol	22.80 (13)
Crocin	19.29 (11)
Imol	21.05 (12)
Nimsee	8.77 (5)
Brufen	5.26 (3)
Disprin	5.26 (3)
Vicks action 500	7.01 (4)
Diclomol	5.26 (3)
Bruzen MR	3.50 (2)
Duoflam	1.75 (1)

Table 11: Common sources of information about drugs

	Percentage of participants (*n*)
Doctors	37.41 (55)
Pharmacist/medical drug store person	40.81 (60)
Friends	10.20 (15)
Family members	14.96 (22)
Television	3.40 (5)
>1 option	24.48 (36)

of Central India. In the present study, 40% of the participants were found to be illiterate as against a study where self-medication was found to be higher in well-educated participants[5] which can be expected as information about drugs is easily available through media and internet is the main source of education for most of the middle-class populace who get to know everything they want from the internet sources including the knowledge about the medical disorders and information regarding the various drugs available in market. Furthermore, nearly 80% of the participants had income below 7015/- and so were in the low-income strata showing their unaffordability for dental treatments. Among the total 230 participants, 63.91% of the participants had experienced some or the other form of orodental problems suggesting that dental diseases are highly prevalent. Among them, only 147 participants (42.17%), less than half, had visited the dental surgeons thinking that the loss of tooth is one of the natural processes related to aging in life. Among them, 21.76% of the participants were so ignorant that they visited the family physician for orodental complaints. Since physicians are easily accessible, people along with their medical problems, also, turn to them for their dental health-care needs. On presentation of the orodental complaints, 70.74% of the participants had taken drugs whereas 12.25% had not taken any treatment for their problems. Furthermore, 37.41% of the participants had taken drugs prescribed by their family physicians whereas 33.33% felt that the illness was too mild that it did not require the services of a doctor and thus purchased medication without prescription. Again, 44.21% of the participants felt that they had previous experience of a similar illness and even if they go to a doctor, they will be prescribed similar medication, thus, they followed old prescription whereas 20.40% followed prescription of family members or friends since they had similar problem recently and they were cured by taking the same drugs which can actually prove to be a very dangerous practice as what suits one's genetic constitution might not suit all and the combination of drugs could, also, affect adversely. Furthermore, if one keeps taking the same drugs, the body develops tolerance and resistance in case of infections, wherein higher doses are required to treat the same disorder and/or infection. There are also cultural factors, in play, since the participants had been born into a specific culture where certain types of medications, especially alternative medications were being taken from an early age. Many participants, while acknowledging the power of conventional drugs, considered alternative medications more appropriate to treat their illnesses. Elderly persons in the households possessed knowledge of alternative medications for common illnesses and these alternative medications were usually tried first by 51.70% of the participants, among which, clove was considered most effective by 28.95% of participants. Unpredictably, Zandu Balm was used by 30.27% whereas eucalyptus oil and camphor by 15.78% of the participants. It was found to be a common belief among most of the participants that alternative medications were safer and devoid of any adverse effects although this might not always be the case.[6] Majority of the participants took medication for toothache (57.69%), followed by tooth mobility (19.23%), tooth decay (14.42%), for both toothache and tooth mobility (14.42%) whereas some were reported to have more than two complaints simultaneously (18.26%). The duration of use of drugs was not specifically enquired into, but in general, drugs were stopped as symptoms improved. It was seen that 59.61% of the participants stopped the drug after relief of the complaint without completing the course of treatment. Economic constraints were commonly cited as the reason for the premature stoppage of the treatment. Most shocking observation from the present study was that 70% of the participants were not even aware of the common

Table 12: Common reasons for indulging in self-medication

	Percentage of participants (*n*)
Unavailability of dental surgeons	19.04 (28)
Loosening of teeth and weakening of eyesight	18.36 (27)
Consultation and treatment not being affordable	16.32 (24)
Fear of dental treatment	11.56 (17)
More time required for treatment	10.20 (15)
Far from home and working place	5.4 (8)
>1 option	19.04 (28)

adverse drug reactions and the possible interactions these drugs might have with the other drugs they had been using. Among the 92 participants who were practicing self-medication, 38.04% of the participants did not even remember the name of the drug they were using or had used with most of them having difficulty in recalling precisely the name of the drugs used by them. Paracetamol (22.80%), followed by Imol (21.05%) and Crocin (19.29%) were the drugs most commonly used for self-medication. Paracetamol and other analgesics were the most commonly used class of drugs abused for self-medication as found in the existing literature too.[6,7] In the present study, 63.59% of the participants admitted to self-medication whereas the previous studies on self-medication for common illnesses in India have shown in a range between 31.3% and 82%.[8-10] Fewer studies have been conducted on self-medication for dental pain. In a survey, the prevalence of self-medication with analgesics for dental pain was found to be 21.37%.[11] Similar study done by Baños *et al*. for self-medication with analgesics for dental pain was found to be 70%.[12] In the present study, 40.81% of the participants were found to take advice from the pharmacist/medical drug store person for their dental pain similar to the finding of another study, wherein 57.46% of the participants were found seeking advice from the chemist for their dental pain.[10] For 24.48% of the participants, source of information was more than one source including friends, family members, and television. The present study highlights that pharmacist is no more dispensers of medication to patients, but their role has expanded to giving medication to the patient. This is a matter of great concern since short-term pain relief means patient will postpone consulting the dental surgeon or physician; thereby, the opportunity to diagnose the disease in an early stage and getting adequate treatment will be missed, and in case of dental problems, this will lead to increasing morbidity as those teeth which could have been saved with timely intervention, then, will be needed to be removed. In the present study, nonaccessibility of the doctor was cited as the most common cause for nondoctor personnel prescribing the drugs accounting for about 19.04% of the cases. Other reasons cited were superstitious beliefs such as loosening of the teeth and weakening of eyesight in 18.36% of the cases. Furthermore, visits to the dental surgeon were supposed to be expensive and this was one of the most important reasons as to why 16.32% of the participants had not approached for dental treatment. In the present study, the people were interviewed directly though some people had failed to recall the names of the medications they had used which might have introduced some differences in the observations and results. In several studies, it has been found that an inappropriate self-medication results not only in the wastage of resources but also leads to resistance in pathogens, drug dependence in case of certain types of drugs, and severe adverse drug reactions owing to their repeated and chronic use over time.[13] On the other hand, if used appropriately, self-medication has been seen to save lives in acute medical conditions and certain emergencies.[14] It is now accepted that self-care in the form of responsible self-medication can be beneficial for the patients as well as the health-care providers. The World Health Organization has also pointed out that responsible self-medication can help prevent and treat ailments that do not require medical consultations every time and provides a cheaper alternative for treating common illnesses.[15] However, it is also emphasized that self-medication must be accompanied by appropriate health-care information and should be practiced judiciously.[16] Studies on self-medication show that it is influenced by many factors including education, family, society, law, availability of drugs, and exposure to advertisements highlighting, therefore, the need for a proper check and assurance at all levels to practice it the way, it is supposed to be so that it can reduce burden on the patients as well as health-care providers, while simultaneously serving the society, as a boon and not a bane in the form of a boon.[17]

Conclusion

Analgesics were the most common drugs abused for self-medication. The study revealed that mistaken beliefs about medicines and undesirable attitude toward self-medication were the main reasons as to why people resorted to this kind of unsafe practice of self-medication. In this context, it was also noted that there was insufficient public awareness regarding the consequences of indulging in self-medication and a lack of strict implementation of regulations and monitoring by drug regulatory authorities was further adding to this problem. It could thus be concluded that adequate health education of the populace was found mandatory to make people aware of the use and misuse of drugs and regarding the potential adverse effects and possible drug interactions they might show, especially, when used repeatedly or on a chronic basis. Furthermore, dental health-care services were supposed to be made more readily available and affordable so that self-medication among populace in rural areas could be checked effectively.

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Conflicts of interest

There are no conflicts of interest.

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