

## Understanding the Strange Addiction of Eating Soil Gravels

After first rain in hot summer or while watering the plants one experiences a soothing aroma of the soil. It is all right if someone likes this aroma or someone craves to smell it repeatedly. But beyond this, if someone feels strong urge to taste or to eat that soil, then it is a warning signal. Because that might be a symptom of a mental illness 'PICA', caused due to significant shortage of many essential ingredients in the body of that person. A strong urge to eat non edible substances and getting addicted to eating such substances because of inability to control that strong urge, is scientifically called 'PICA' illness.



**A photo from a shop in Nairobi, Kenya (Africa)**



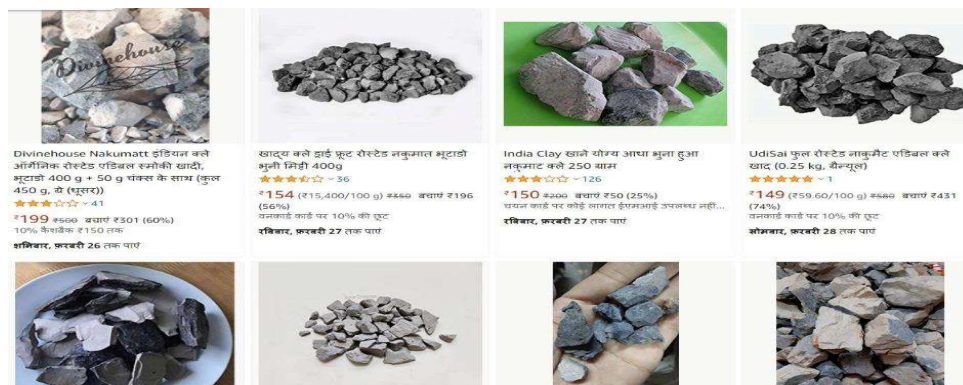
**Photos from a shop in Pune Market Yard**

It is generally known from the news reports that the habit of eating soil/clay or soil gravels is prevalent among women manual labourers all over the world. (Ref.: BBC News, 18 Sept., 2008) One can find references of women eating such soil or clay during their pregnancy in poor countries of South America and Nairobi, Kenya in Africa. In India also there is largest prevalence of Soil/Clay Eating. While working in various localities in Pune, Manoday De-addiction Centre (Manoday Vyasanmukti Sanstha)

discovered widespread addiction to soil eating, along with other common addictions such as liquor, tobacco, cigarette/bidi smoking, use of masherī, chewing gutkha, and smoking ganja and other drugs. (Manoday Centre undertakes various de-addiction programs. They disseminate scientific information about addiction to educate people and raise awareness about its dangers. They also offer counselling to those who want to overcome their addiction, providing support and guidance. Additionally, we provide recreational activities, alternatives, and better life skills to prevent young people from the attraction to addiction.) It is commonly believed that addiction rates are higher among men. However, the reality is that anyone can develop an addiction to any substance. Especially, while working in slums it was noticed that various types of addictions are also prevalent among women. For example, in addition to chewing tobacco and applying masherī to their teeth, an unusual addiction to eating soil and stones has been discovered.

**History and extent of Soil Gravel eating:** Women and young girls are at the top of people who eat backed soil/clay or soil gravels. Information gathered from around 10 small shops in a slum area with approximately 1,000 households revealed that not just a small amount, but a staggering 1.5 to 2 tons of soil is consumed annually. Based on this estimate, if we were to calculate the prevalence of soil eating in major slum areas across Pune city, the statistics could reveal shocking information. Considering the rate of soil eating in both small and large slum areas of Pune, there is no doubt that 20 to 30 tons of soil are consumed every year.

Tracing the history of soil eating, it becomes evident that the specific soil, clay, and gravel have historically been transported to India, particularly to the states of Gujarat and Rajasthan, from mines located around Multan city in Pakistan. Such soil is imported to Bhavnagar in Gujarat. The soil is baked in Bhavnagar. From there such backed soil is transported and sold in various states in India. Such soil and soil gravels are also sold online on AMAZON. This shows that this habit (addiction) of soil eating is not only in poor and toiling sections of the society but is also common in the middle class. Otherwise, such a product could not have been sold on an online marketing platform like AMAZON.



Sales information about soil/clay for eating on Amazon website

Such soil/ clay gravels for eating are routinely sold in various small grocery shops and small shacks in slums and middle class colonies of the city. It is generally more savoured in the slums. What is sold there is grey coloured backed soil/clay. Some people call it `Multani Maati`. As per quality this soil/clay is sold for up to Rs. 500 to 800 per gunny bag. Soil/clay gravels are sold in retail for Rs. 20 to 40 per Kg. Every shop, on average, sells 2 to 4 Kg. backed soil per day. Many small shops sell this soil/clay packed in very small packs costing Rs. 2 to 5. From this it can be presumed that every customer of such shops, on average consumes 20 to 50 grams of such soil/ clay per day.

**Belief behind soil eating:** Some people say that this comparatively inexpensive but `feel-good` addiction started by people who could not afford other expensive big addictions. It is also said that people get this habit because of a shortage of calcium in their bodies. Some others term this as an illness. On 13 July, 2018 `SAAM TV` had even reported a news that people in Aurangabad consume 16 tonnes of soil/clay a year. Women and young girls consume soil/clay on a large scale. A lack of vitamins and iron, anemia, malnutrition, and similar factors often lead to the harmful habit of consuming non-food substances. It is also said that if a person with Anaemia or malnutrition consumes such soil/clay it can aggravate their condition.

After visiting some shops in Market Yard of Pune city, it was noticed that about 7-8 shops receive one truck of this consignment every two months. A shopkeeper said that the women believe that this soil/clay contains more calcium and those women who have shortage of calcium and iron crave for eating this substance.

For the past 15 years, one woman has had a habit of eating soil and clay. Initially, she consumed chalk and slate pencils, but this habit has since developed into an addiction. Now, she consumes three to four packets of soil or clay every day, amounting to 30 to 40 grams daily. Her dependency is so severe that she becomes irritable if she cannot find any soil or clay to eat. This habit is so widespread among women that these substances are readily available in grocery stores, even in small lanes and by-lanes. The packets are sold at the low price of one to two rupees, resulting in high sales volumes.

**Mental and Physical illness:** Eating soil/clay is totally nonscientific as such soil/clay do not contain any nutritious substance. Doctors say that such soil/clay eating women may get physical illness and it can also have adverse effects on children born to such mothers. Those who suffer from a mental illness named as `PICA` crave to eat non-food substances.

`PICA` is a Latin word. The DSM 5 criteria for `PICA` falls under `Feeding and Eating Disorder` which results in the altered consumption or absorption of food that significantly impairs physical health or psychosocial functioning. The term "non-food" is used in diagnosing PICA because it excludes the ingestion of diet products with minimal nutritional value.

Eating soil or clay is scientifically unsound, as these substances lack any nutritional value. Medical experts warn that such habits can lead to physical illnesses in women and potentially harm unborn children. The condition known as 'PICA', where individuals crave non-food substances, including soil or clay, is recognized as a 'feeding and eating disorder' under DSM 5 criteria. PICA often manifests in pregnant women and young children, particularly those who are not yet fully developed. It significantly impacts physical health and social functioning due to altered food consumption patterns. Therefore, this condition underscores the severity of the illness and highlights the importance of seeking medical attention for proper diagnosis and treatment.

There is also a risk of ingesting harmful bacteria from soil or clay, as these substances are not subjected to scientific analysis for safety. The desire to consume non-food substances like soil, chalk, or slate pencils can indicate underlying nutritional deficiencies, such as calcium, magnesium, zinc, and iron, which may lead to the formation of intestinal worms and subsequent blood depletion. The most effective way to boost iron and calcium levels in the body is through proper medication prescribed by healthcare professionals. It's crucial to emphasize that eating soil or clay is never an option.

**The Soil contains which chemicals? :** After noticing that such soil eating is prevalent not only in city slums but also in middle-class neighbourhoods, it was thought that it was necessary to go to the root cause as to why people love this soil so much. It was deemed important to examine which chemicals are present in this soil. For this, samples from various shops were taken and they were analysed. (For analysis of soil samples we got assistance from Regional Forensic Laboratory, Pune and Chemistry department of Savitribai Phule Pune University.) The lab analysis revealed that though the soil contains various chemicals such as Oxygen, Magnesium, Aluminium, Titanium, Iron, Carbon Etc., the quantity of Aluminium and Titanium are relatively large. In fact these two chemicals are harmful to the human body. These may lead to medical conditions such as Lung diseases, weakness of nerves, bone diseases, brain illness and Anaemia.

**Health ill-effects of Soil/clay eating:** Eating soil/clay, slate pencil and chalk cause dental issues as well. It may also cause infection/ ulcers in the mouth and intestines. It may also lead to kidney stones, stomach and kidney disorders. Repeated intake of non-edible substances causes stress on the digestive system and slowly such patients start getting constipation problems. In some patients even problems such as kidney failure are seen. In the field of work in various localities, Manoday De-Addiction Centre noticed various symptoms of ill-effects on the bodies of girls due to soil/clay eating such as irregular menstrual cycles, suppressed appetite, lesser intake of water, constant irritation, lessening of facial glow, shortage of blood, reduced sleep, loss of fervour in any work, reduced immunity leading to frequent illness and PCOD. The women have severe symptoms of Anaemia leading to shortage of Iron and Folic Acid due to the habit of soil eating. 60 per cent women in the city and 60 per cent in rural areas have Anaemia. Many women eat soil due to reduced Iron in the body. If soil is

eaten during pregnancy, it may lead to premature delivery, less weight of the new born child, and excess heart pressure during delivery. The occurrence of such harmful effects can be minimized through social awareness, with many organizations actively addressing this issue.

**Remedial Measures:** According to Gynaecologist Dr. Ketaki Kadam from Pune, to reduce the habit of eating soil or clay, people should consume an iron-rich diet including foods like Halim, spinach, kidney beans (usal), beetroot, jaggery, peanut ladoos, milk, pulses, fish, and sesame ladoos. She also advises consulting a doctor if there's a craving for non-edible substances, maintaining proper hydration and regular meals, undergoing necessary health check-ups, getting sufficient sleep, and supplementing iron deficiency with foods like Rajgira, curry leaves, lime, and coriander during meals. For severe iron deficiency, she recommends taking folic acid and calcium tablets prescribed by a doctor from a government dispensary.

**Conclusions:** Despite the abundance of good things in nature, the habit of consuming non-edible substances is undoubtedly a symptom of mental illness. When a significant segment of society engages in such behavior, it often gains social acceptance. Therefore, it is crucial to recognize this as both a social and mental health issue and take steps to address it. People from all walks of life must work together to free the younger generation from various addictions. Addiction leads to immediate changes in behavior, which parents are usually the first to notice. They should inform teachers, doctors, and the police about such changes. While combating intoxicating substances is the responsibility of the Anti-Narcotic Department, the source of information for any action typically comes from the general public. Therefore, ordinary citizens must remain vigilant. By properly enforcing the Anti-Narcotics Law and implementing the aforementioned measures, we can tackle this problem effectively.

### **Measures to Take**

1. Addiction is a serious societal problem. But people do not find a way to get out of it. Because there is not even a single De-addiction centre at community level. The deprived and economically weaker sections of the society cannot afford treatment by paying for it. Therefore, free of cost De-addiction centres need to be set up at community level. Such centres can provide proper medication, mental treatment, guidance, awareness and training.
2. Since illegal liquor and smoking shops have spread across community level, thus, the rate of addiction is more. Resultantly, the slums are in the tight grip of addictions. Small children go to shops to bring liquor and tobacco products for their parents. Therefore, there should be rules prohibiting liquor shops in slums and those rules should be strictly implemented.
3. The young generation, who is the future of our nation, is getting engulfed in addictions. To free the youth from this menace, taking holistic approach, by enforcing availability of various recreational options/ activities should be made available as preventive measures. Such can include raising awareness,

counselling, various sports activities, Gymnasium, Yoga teaching, libraries, computer training, Nature Visit (Visit to Forts), Street Plays, visit to historical places, lectures and symposiums, Book & movie Club, Regular Developmental Tests etc. The Government should render financial assistance to such supplemental activities.

4. There are various groups of addicted persons in a given locality. (Youth, women, drunk men). Since the causes for addiction and their effects differ as per group, various programmes need to be planned and implemented as per requirements of each group.
5. During the time of COVID-19 pandemic mobiles came in the hands of youth in the name of schooling. Since then, the young generation spends increasingly more time on screen through social media. Ill effects of this are clearly visible on the young generation. Generally, ever increasing use of screens has turned out to be a major social problem now. To bring the youth out of this, while making aware of the inherent dangers, it has also become necessary to make proper and creative alternatives available to the youth.

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