



Anti-Heartburn Ashes- Local Solutions

15. Kiromo

Elizabeth Shitundu, Isaya Mwakyusa and Leanda Thomas

TREATMENT OF HEARTBURN

Until nowadays scientist trying to find the treatment of heart burn. But only anti-heartburn are produced and sold or given from hospitals/dispensary.

These anti heart-burn pills are as follows:

- (i) The Magnesium trisilicate ($MgSiO_4$).
- (ii) Sodium hydrogen Carbonate ($NaHCO_3$)

But also doctors tell people with this problem to drink a lot of milk, so as to reduce the acid in the stomach. All these pills are basic or alkali in nature. Means are used to neutralize the acid produced in the excretory gland cells for stomach wall or the food substance taken in. In this part of treatment there is also the traditional material which are used to reduce the heart burn. These are soil from burning woods and un-toxic wood ashes. These materials are basic in nature but let us deal more with this substance in next chapter. The common anti heartburn used in Africa is magnesium trisilicate, but because most African countries are very poor, therefore even these anti heartburn tablets benefit only those who can afford living in areas with good health services.

In Tanzania people face this problem due to lack of balance diet caused by poverty among people, example students studying in government boarding schools always take beans and sometimes cabbages as their daily meal. These materials produce more acid in stomachs which is also acid medium. The developed countries face these problems due to excessive taking of too much protein substances, smoking, and eating cold starch food. Due to these effects we can use the solution of ashes as anti heartburn because these substances are freely found to most African countries.



Heart burn is the pain of burning which occurs due to involuntary movement of chyme from stomach to the mouth. These substances are acidic in nature therefore, as they move along the esophagus, they tend to burn but because the heat is so sensitive it detects the burning and hence the heart burn disorder occurs. The major causes of heart burn (acidic production) in the stomach are:

- Failure of cardiac sphincter to close completely due to foods like, pepper, citrus, fruits, fatty foods, chocolate spicy foods and carbonated drinks.
- Using of drugs such as alcohol, caffeine, cocaine and tobacco
- Lying or bending soon after eating
- Stress
- Wearing of tight clothes. Also it can be caused by pressure due to pregnancy
- Eating cold starch food substances like sweet potatoes and yams

Due to our reference from sources such as "Human biology book" it is approximated that most of people are affected with this problem as follows: Europe about 45% are affected, America about 58% are affected, Africa about 60% are affected.

In Tanzania most of people affected are those living in towns and ward's school students due to poor living standard and price fluctuation of different varieties. Therefore, we are trying to find and modify the ashes as anti heart burn, because these products are thrown away to the environment, our intention is that can use these products regularly can stop or reduce the problem.

This comes in order to reduce the cost of buying magnesium trisilicate tablets used to reduce heartburn, mostly in areas where there is inadequate of hospitals and dispensaries. This ashes product solution is made by using banana leaves.

Prolonged heartburn leads to the formation of ulcers. Our hope is if we reduce the heart burn disorder to people, we shall succeed to reduce ulcers problem too especially those who can not afford buying anti heart burn tablets and the world at large.

Results:

After taking your meal there will be no heartburn because the acids containing in your food will be neutralized by the solution since it acts in basic medium. And the heartburn effect will be neutralized. In order for this solution to work effectively a patient must observe the following:

- Ø Stop eating cold starch food like cassava, yams, sweet potatoes etc. because these substances produce acids which are corrosive.
- Ø Stop drinking quickly acidic like soft and hard drinks, since they increase the quantity of acids and gas in the stomach.
- Ø Do exercise in order to stop prolonged and critical thinking, some people enter into critical thinking for a long time causing brain to send false impulse to stomach and gastric gland which secretes gastric juices.
- Ø Stop eating cold protein substances like beans because the carboxyl part of amino acids increases the PH of a chyme and gases in stomach
- Ø Stop smoking because this accelerates the production of gastric juices

If a patient won't follow the above advice he/she can have serious and mild heartburn as a result

- A person can not sleep well esp. during night when he tries sleeping the acid burns the alimentary canal and the pain disturbs his sleep
- Occurrence of ulcers; if acid exceeds in stomach or ileum reduces the amount of mucus causing acid to burn these parts causing ulcers.
- Restriction of digestion of some types of food; generally enzymes work in proper PH, thus some work in acids and others in basics, therefore if there is more acids in stomach can not be neutralized completely at the duodenum hence incomplete digestion
- A person chooses only certain kind of food to eat; a person prefers eating basic substances to acidic food substances because the acidic food causes heartburn sensation.
- A person can not be hard worker; this is because the person feels ill most of the time and decreases efficiency of the work done.



Conclusions:

The results of the research will help the society to eliminate or to reduce the problem of heartburn which seems to be a serious problem in our societies.

The strength of the research is when applied it helps to reduce the problem in a very short time. The application of anti-heartburn is cheap to make it and use it, less expensive also it can be made even in remote areas, eg. Our school is very far from hospital but since we started making the solution most of the students who were disturbed by heartburn can take the solution and feel okay. The weakness of the treatment is it is not approved by WHO; it is a local treatment which when improved it can be of help in the medical field.

Another weakness is that it is difficult to know the expiry date since we had no measurement taken to show the amount of PH present in the solution

References:

- Kent M. Van De Craaf (1995): **Human concept of Anatomy Physiology**; W.M.C. Brown Publisher, U.S.A.
Marder S.(1986):**Human Biology book**, W.C.B. Publisher, U.S.A.
Mader (1985): **Inquiry into life, 6th ed.**, W.C.B. Publisher, U.S.A.
Magasi C. Sedrick (2007): **New essentials of Biology for Secondary Schools book two**, Nyambari Nyanwine Publishers, Dar es Salaam .Tie
(2005): **Biology form 1 & 2**, Pearson Longman, Dar es Salaam.

Acknowledgements:

The completion of this work would not have been possible, if there is no kindness we received from many people. Specifically, we congratulate our dear teachers Madam Salma and Sir Emmanuel M. Joseph who helped us enrich our project and have been most helpful and supportive. There were always available almost around the clock to answer our questions.

Also we thank all our teachers esp. science department for their suggestions and permission to use the laboratories when it was necessary. Lastly we thank our headmaster Mr. Phillip Mwakapalila for his helpful contribution and suggestions.

Further information:

Download at: www.youngscientists.co.tz/posters