



HIMALYAN IODINE REVIVAL

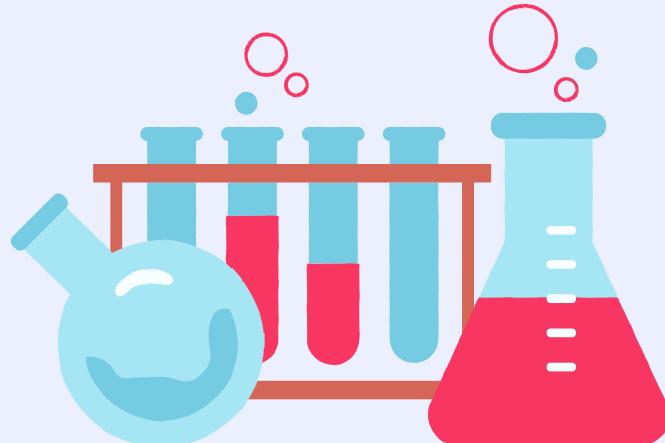




THEORY

On the basis Of our research, we have found that in Himalayan regions like Kulu, etc. there is a deficiency of iodine in water which causes various diseases like goiter. So working on this issue, we thought to create a device that would add a certain amount of iodine that is Good for consumption and would not be harmful.

RESEARCH WORK



The provided values of median urinary iodine concentration (UIC) levels in different regions of Himachal Pradesh indicate a potential iodine deficiency in some of these areas:

In Kangra:

- SAC UIC: 200 µg/l
- PM UIC: 200 µg/l

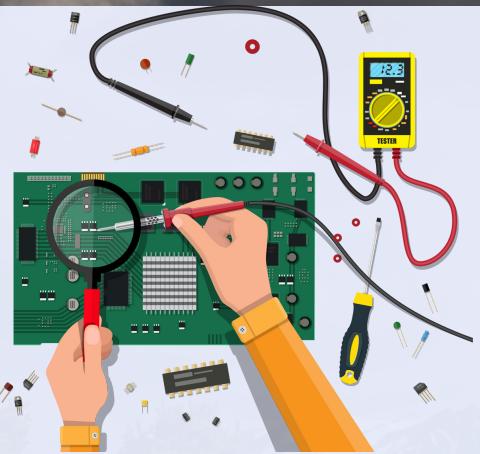
In Kullu:

- SAC UIC: 175 µg/l
- PM UIC: 149 µg/l

In Solan:

- SAC UIC: 62.5 µg/l
- PM UIC: 130 µg/l

The findings of the present study indicate that there is an urgent need to strengthen the IDD control program for the prevention of ID in HP. There is a high prevalence of ID among SAC, PMs, and neonates of HP. Thus, there is a need to review the implementation of the iodized salt program in HP. Furthermore, there is an urgent need for a neonatal screening program for early detection of children with ID.



Components of the Device:

TWO COMPARTMENTS: THE DEVICE CONSISTS OF TWO COMPARTMENTS. ONE CONTAINS WATER, AND THE OTHER CONTAINS IODINE.

ARDUINO-BASED SENSOR: THE WATER COMPARTMENT IS EQUIPPED WITH A SENSOR BUILT USING ARDUINO TECHNOLOGY. THIS SENSOR CONTINUOUSLY MONITORS THE WATER LEVEL INSIDE THE COMPARTMENT

WORKING OF DEVICE

The water compartment contains an Arduino-built sensor, This sensor is connected to the compartment with an iodine and water device. Once the level of water is below a particular point it fills the tank to its maximum capacity.

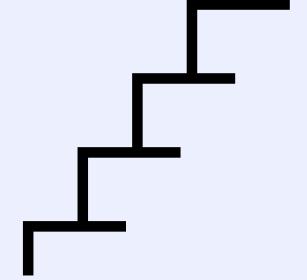
Once in every while when a compartment is filled with water the right amount of iodine is added from another compartment, and safe iodized water is ready to be used and dispensed.

Our device works as a normal water dispenser but with adding the qualities of iodine in water. It contains two compartments one with iodine and another with water.





STEPS INVOLVED



Monitoring Water Level: The Arduino-based sensor in the water compartment continually checks the water level. It can be programmed to have a set threshold below which it considers the water level to be low.

Refilling Water: When the sensor detects that the water level has fallen below the predetermined threshold, it triggers a mechanism to refill the water compartment. This mechanism can be an inlet valve connected to a water source. It opens the valve to add water to the compartment, filling it up to its maximum capacity.

Adding Iodine: Once the water compartment is refilled, the device's design involves adding the right amount of iodine to the water to make it iodized. This is done by controlling the release of iodine from the iodine compartment. The device might use a pump or a controlled release mechanism to add iodine in the appropriate quantity.

Mixing: After the iodine is added to the water, there may be a mixing mechanism in place to ensure thorough blending. This can be accomplished through stirring, shaking, or some other method that guarantees even distribution of iodine in the water.

Iodised Water Ready: Once the mixing is complete, the iodized water is ready to be dispensed. Users can approach the device and dispense the iodized water as needed



THANKYOU!

TEAM MEMBERS

TUSHAR CHOPRA

SARTHAK SAHU

DIVYAPRASAD SAHU