**Keywords**

Smart Pill box

IoT

Health Care

Medicine Reminder

State the Problem

Problem

Pills are one of the pillars of medicine, being used as direct treatments of some sort of illness as to assuring some medical condition remains stable.

Medication error: any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer

The study found that **46.5% of** the patients received at least one inappropriate medication and 12.8% patients experienced at least one adverse health outcome (40). Another study found that 9% of all prescribing events in care homes were subject to error, with 70% of care home residents affected by a medication error

After seeing so many of these cases it is evidently crucial that the correct pill is taken by the correct person at the correct time, otherwise taking an incorrect one or not taking one at all may expose the patient to several dangerous situations, ranging from mild health issues up to death

57.8% of them found to be using 5–9 medications/day. 39.1% of them using ≤4 medications/day [Table 2]. In the age group of 65–70 and 71–75 years, **average medication/day was 5.4 and 4.6**, respectively, whereas, in the age group of 76–80 and 81–85 years, average medication/ day was 5.7 and 4.9, respectively.

On the other hand several problems related to the high amount of pills nowadays are prescribed to patients are found in hospitals or in retirement homes. In these places on of the main jobs is to give out to its patient the correct pills. Managing, sorting and giving out the pills to each one of the patients can sometimes have a high chance of error, with a patient or resident receiving one or more incorrect pills.

 Each year, in the United States alone, 7,000 to 9,000 people die as a result of a medication error.

The total cost of looking after patients with medication-associated errors exceeds $40 billion each year.

In addition to the monetary cost, patients experience psychological and physical pain and suffering as a result of medication errors.

Many medical errors are due to the fact that people in charge of patient or elder's medication have to deal with sorting huge amounts of pills each day.

There can be a lot of individuals out there who need constant help – may it be our elderly people, family members, the ones who have special needs. Elders are more affected by the timing of taking a certain drug than others, in order to prevent any dysfunction or illness timing is a must

But as with aging comes poor eye sight and poor memory, what if the patient has a dementia like Alzheimer. Some people may forget to take the medicines at the correct time and can forget the medicines which they have to take.

solution

In order to eliminate the factors of always needed observation like nurses or taking a risk of a missed dose, we had to find an easy, portable and efficient solution. Pill boxes already exist but most of them are either has limited use, doesn't fit for elder ages or even has a big size that makes it not suitable to take it with you anywhereFor it to be called smart, its connected through a wireless network, which enables it to be connected to the internet for future applications and integration, also its distinguished by the wide range of the Wi-Fi instead of a Bluetooth or any other field communication, and erase the need for any wires or wired connection which enables portability in the first place. Through that same network its connected to the mobile phone, which with it you can set the timing interval for the dose and also notifies you by many ways when the dose time comes. Also, we added a buzzer with a LED to make a type of physical warning, so that it leaves you no choice but to remember the pill time and take it

This medication pill box is focused on patients who frequently take medications or vitamin supplements, or attendants who deal with the more seasoned or patients. Our smart pill box is programmable that enables medical caretakers or clients to determine the pill amount and timing to take pills, and the service times for every day. medical caretakers or clients can set data for distinct pills.

At the point when the pill time has been set, the pillbox will remind clients or patients to take pills utilizing sound and light.

designing and create a tool which will enable the owner to track every pill to ingest in an easy and simple way requiring no training or complex learning from their side in order to operate the device. This device will be an intelligent pill dispenser.

each patient owning a device will not only drastically reduce the chances of errors occurring but also well optimize and speed up work for the caretakers/nurses by allowing the device to take care of pill management for them and freeing the time slot usually dedicated to that.

Conclusion

The smart medication dispenser can be used to improve medication adherence. It prevents overdosing, misdosing, and underdosing.

Data gathered

https://www.instructables.com/AUTOMATIC-PILL-DISPENSER/